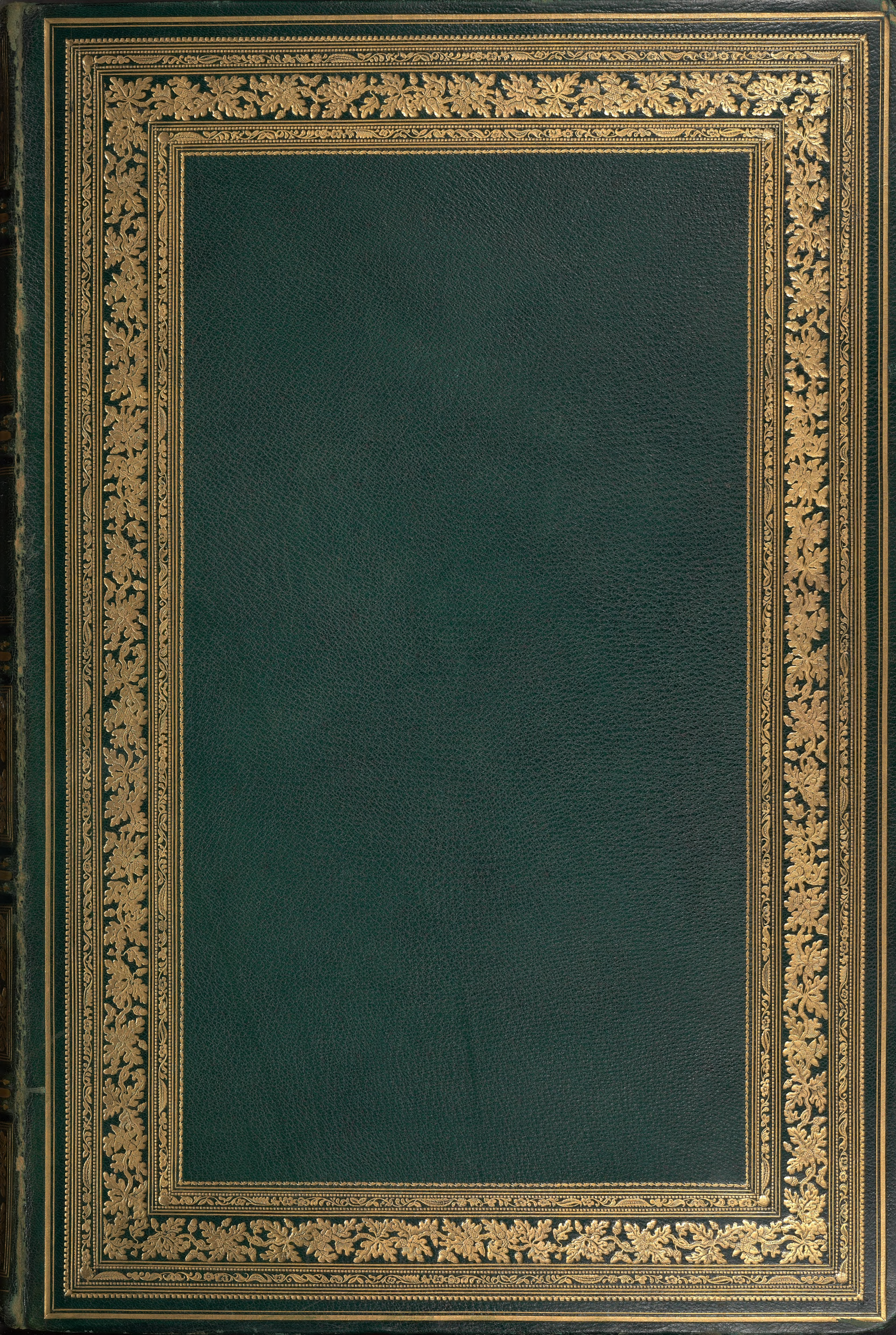
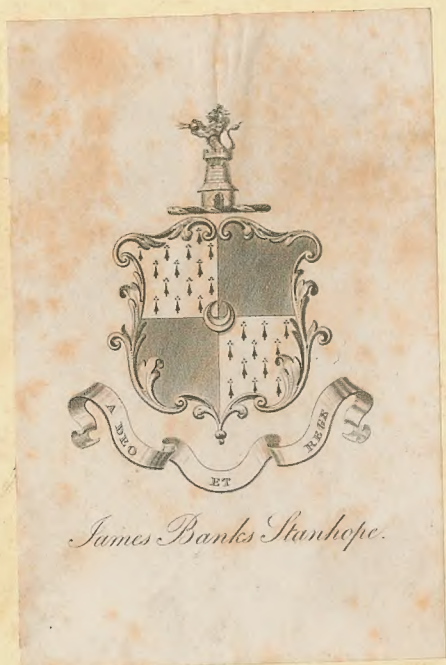




CLARE COLLEGE
Wane Collection



THE
B I R D S
OF
G R E A T B R I T A I N.

BY
JOHN GOULD, F.R.S., &c.

IN FIVE VOLUMES.

VOLUME IV.

LONDON:

PRINTED BY TAYLOR AND FRANCIS, RED LION COURT, FLEET STREET.

PUBLISHED BY THE AUTHOR, 26, CHARLOTTE STREET, BEDFORD SQUARE.

1873.

fPL
674
G697b
1873
v.4
ECN4R3

LIST OF PLATES.

VOLUME IV.

NOTE.—As the arrangement of the Plates in the course of publication was impracticable, the Numbers here given will refer to them when arranged, and the Plates may be quoted by them.

RASORES.

Palumbus torquatus	Wood-Pigeon, or Cuchat	1
Columba œnas	Stock-Dove	2
——— livia	Rock-Pigeon	3
Turtur auritus	Turtle Dove	4
Tetrao urogallus	Capercaillie, or Cock of the Wood	5
——— tetrix	Blackcock	6
Lagopus scoticus	Red Grouse	7
——— mutus	Ptarmigan	8
——— ———	——— (summer plumage)	9
——— ———	——— (autumn plumage)	10
Syrrhaptes paradoxus	Pallas's Sand-Grouse	11
Phasianus colchicus	Common Pheasant	12
Perdix cinerea	Partridge	13
Caccabis rubra	Red-legged Partridge	14
Coturnix communis	Common Quail	15
Turnix africanus	Andalusian Turnix	16
Otis tarda	Great Bustard	17
—— tetrax	Little Bustard	18

GRALLATORES.

Grus cinerea	Common Crane	19
Ardea cinerea	Heron	20
——— purpurea	Purple Heron	21
Herodias alba	Great White Egret, or White Heron	22
——— garzetta	Little Egret	23
Bubulcus russatus	Buff-backed Heron	24
Buphus comatus	Squacco Heron	25
Nycticorax griseus	Night-Heron	26
Botaurus stellaris	Bittern	27
——— lentiginosus	American Bittern	28
Ardetta minuta	Little Bittern	29
Ciconia alba	Stork	30
——— nigra	Black Stork	31
Platalea leucorodia	Spoonbill	32
Vanellus cristatus	Lapwing, or Peewit	33
Himantopus candidus	Stilt, or Long-legged Plover	34
Œdicnemus crepitans	Thick-kneed Bustard	35
Squatarola helvetica	Grey Plover	36

LIST OF PLATES.

Squatarola helvetica	Grey Plover (plumage of winter and young) 37
Charadrius pluvialis	Golden Plover (summer plumage) . . . 38
— — — — —	— — — — — (winter plumage) . . . 39
Ægialophilus cantianus	Kentish Plover 40
Ægialitis hiaticula	Ringed Plover 41
— — — — — minor	Little Ringed Plover 42
Eudromias morinellus	Dotterel 43
Cursorius gallicus	Cream-coloured Courser 44
Hæmatopus ostralegus	Oyster-catcher 45
Glareola pratincola	Common Pratincole 46
Falcinellus igneus	Glossy Ibis 47
Numenius arquata	Curlew 48
— — — — — phæopus	Whimbrel 49
Limosa melanura	Black-tailed Godwit 50
— — — — — rufa	Bar-tailed Godwit 51
Recurvirostra avocetta	Avocet 52
Glottis canescens	Greenshank 53
Totanus calidris	Redshank 54
— — — — — fuscus	Spotted Redshank 55
— — — — — ochropus	Green Sandpiper 56
— — — — — glareola	Wood-Sandpiper 57
Actitis hypoleucos	Summer Snipe 58
— — — — — macularius	Spotted Sandpiper 59
Strepsilas interpres	Turnstone 60
Machetes pugnax	Ruff 61
— — — — —	Ruff and Reeve in first-autumn plumage . 62
Actiturus Bartramius	Bartram's Sandpiper 63
Tryngites rufescens	Buff-breasted Sandpiper 64
Tringa canutus	Knot 65
Calidris arenaria	Sanderling 66
Limnocinclus pectoralis	Pectoral Sandpiper 67
Ancylocheilus subarquata	Curlew Sandpiper 68
Pelidna cinclus	Dunlin (summer plumage) 69
— — — — —	— — — — — (winter plumage) 70
— — — — — Bonapartei	Bonaparte's Sandpiper 71
Actodromas minuta	Little Stint 72
Leimonites Temminckii	Temminck's Stint 73
Arquatella maritima	Purple Sandpiper 74
Limicola pygmæa	Broad-billed Sandpiper 75
Macrorhamphus griseus	Red-breasted or Brown Snipe 76
Scolopax rusticola	Woodcock 77
Gallinago major	Great Snipe 78
— — — — — scolopacina	Common Snipe 79
Limnocryptes gallinula	Jack Snipe 80
Phalaropus fulicarius	Grey Phalarope (summer plumage) . . . 81
— — — — —	— — — — — (winter plumage) 82
Lobipes hyperboreus	Red-necked Phalarope 83
Fulica atra	Coot 84
Gallinula chloropus	Moorhen 85
Rallus aquaticus	Water-Rail 86
Crex pratensis	Land-Rail, or Corn Crake 87
Porzana maruetta	Spotted Crake 88
— — — — — pygmæa	Baillon's Crake 89
— — — — — minuta	Olivaceous Crake 90



PALUMBUS TORQUATUS.

PALUMBUS TORQUATUS.

Wood-Pigeon or Cushat.

Columba palumbus, Linn. Faun. Suec., p. 75.

——— *torquata*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 26.

Palumbus ———, Kaup, Natürl. Syst., p. 107.

IF the draining of our marshes and the reclaiming of our estuaries have been the means of destroying or driving away many native birds, the progress of agricultural science and the increase in our plantations have tended to the multiplication of others, and of none more than the Wood-Pigeon. No one, I imagine, who knew England and Scotland fifty years ago, but must admit that the entire face of those countries has been greatly altered—high cultivation and the planting of ornamental belts of firs and other trees having effected a remarkable difference in its appearance. If this great change had resulted in the increase of a more useful bird, we might consider ourselves fortunate; but in the case of the Wood-Pigeon this is very questionable, and I therefore take up my pen to write its history with less pleasure than when similarly engaged on the other members of our avifauna. To quote more than a few of the numerous articles which have from time to time appeared in the public papers respecting its destructive propensities would be futile, since they must be well known to all my readers; but I shall attempt to place before them both the sunny and the shady side of the bird's history, and allow them to draw their own conclusions as to whether the pleasing traits in its character do or do not counterbalance the injuries it inflicts. With regard to its distribution a few words will suffice. During winter the Wood-Pigeon is spread over every part of the British Islands, either in small companies or in immense flocks, which betake themselves to the open fields in the daytime, and at sundown retire to roost in woods, and plantations of fir and other trees. At this season it is shy, wild, and distrustful; and few birds know better how to keep out of harm's way. It now feeds on cereals, the seeds of wild plants, acorns, beech-mast, and berries, particularly those of the ivy, on the leaves and roots of turnips, their ravages upon which plant often occasion a very great diminution in the value of the crop. In the spring the flocks are broken up, and their members retire in pairs to woods, plantations, shaws, hedgerows, and shrubberies for the purpose of reproduction. A wonderful change in the disposition of the Wood Pigeon now takes place; for it becomes as tame and confiding as it was formerly shy and distrustful. It no longer fears the approach of man, but, on the contrary, seeks his protection, and courts his intimacy, frequently constructing its nest in his garden, perhaps in the ornamental cedar that overshadows his house, and solacing him with its pleasing *coo-coo-roo* in the morning, and its beautiful aerial evolutions during the other portions of the day. Such is its conduct during the season of reproduction, and all right-minded persons will not, I am sure, allow its confidence to be misplaced, but will permit it to remain unmolested until the period arrives when it will return to the fields and open country, and at once resume its usual craftiness. While writing the above passage, a letter has reached me, from the Rev. Edwin Sidney, of Cornard, near Sudbury, in Suffolk, in which he says:—"I have two or three pairs of Wood-Pigeons and Turtle Doves which breed in the trees round this house. They are never disturbed; and the former have become very saucy and mischievous, plucking up the young peas in the face of the gardener, and provoking him greatly. How well these creatures know that they are safe!"

I now proceed to the cloudy side of the Cushat's character, by giving some further details of the immense injuries it inflicts upon our crops, and the baneful effects produced by these birds to any district in which they may take up their abode.

To show in what vast numbers the bird is sometimes seen, I extract the following passage from a letter sent to me by Mr. J. Illsey, dated Daylingworth, in Gloucestershire, February 2, 1866:—"What has astonished me more than anything else is the vast flocks of Wood-Pigeons we have here this winter. I have seen several, of fully a mile in length, pass overhead to the beech-woods, early in the morning. The people call them 'foresters.'"

Now, if the country be suddenly covered with snow, and the favourite beech-mast, acorns, and wild seeds are not to be obtained, the havoc such a flight would make among a field of turnips, to which they would certainly descend, must be immense: on this head, a writer in 'Land and Water' says:—"They settle on the turnip-fields in hundreds. They begin by eating the young tender leaves from the centre of the turnip; the water lodges, the frost gets in, and it rots. If you shoot a Wood-Pigeon in the winter when returning to roost, his crop generally bursts with the fall, so full is it. Sometimes, if he has been gleaning, there may be some corn or beans; but far oftener there is nothing but a 'gowpen' (a double handful) of turnip-leaves. I have seen part of a turnip-field so punished by Wood-Pigeons that I can compare it to nothing but a gooseberry-

garden suffering from caterpillars—merely the strong centre ribs of the leaves left sticking out. Perhaps you will say that this was bad farming, and that the turnips should have been lifted and stored; but on arable farms in Scotland, in the regular rotation of crops, one-seventh of the farm is probably under turnips. If the crop has been good, this is more than the farmer requires; and the extra turnips are let to some butcher or sheep-farmer, and consumed by his sheep on the ground.”

“During the severe weather of January 1867,” says Mr. Cordeaux,” hundreds of these birds daily frequented the turnip-fields in North Lincolnshire, feeding on the green tops of the swedes and common turnips; they appear, however, to give a decided preference to the latter plant. In two contiguous fields, the one swedes, the other the common globe turnip, they invariably congregated in much greater numbers on the white turnips, to the comparative neglect of the swedes. They drilled holes with their bills into the bulbs, which is surprising, considering they were frozen as hard as stones; they thus often do considerable damage to the root. As a *general rule* I found that the outer skin of the swedes thus operated upon was previously more or less injured, either by the bite of hares or rabbits, or the puncture of some insect.”—*Zoologist*, 1867, p. 690.

That the Wood-Pigeon is equally destructive in the cornfields seems certain; for “Scoticus” says:—“In the autumn, when the wheat is just turning yellow, the Wood-Pigeons are very destructive. First one or two leave the wood and settle, generally in the centre of the field; then ensues a constant stream in the same direction of every pigeon within ken, until some hundreds may be assembled. They don’t settle, like the partridge, at the foot of the stalk on the ground, but try to alight on the standing stalks of corn; the straw breaks with their weight, and never recovers; it is not merely bent as from heavy rain. Of course they eat some grain; but in this case their actual weight is more destructive than their appetite; the corn lies matted, and, if the weather be warm and damp, begins to sprout. But it is in winter that the Wood-Pigeon is most destructive.”

The following instance of the voracity of the Wood-Pigeon appeared in the ‘Times’ of Oct. 22, 1857:—

“There was shot lately in the neighbourhood of Inverness a Wood-Pigeon, in which was found the enormous quantity of 1,100 grains of wheat, barley, and oats (together with 40 peas), the barley-grains predominating. This seems to be no unusual case. In another, killed on a neighbouring farm, was found seventy peas, and a very large quantity of the grains above mentioned, but they were not counted; it was stated, however, that the bird was full to the very bill. The quantity a flock of 100 or 200 of these destructive birds would devour in the course of a harvest season must be very considerable.”—*Inverness Courier*.

In the ‘Field’ for Jan. 1860, a Guildford subscriber writes:—“On the 17th inst. I shot, close to my own house, a fine Wood-Pigeon, and on reaching home, finding it had an immense crop, I took out its contents, which were composed of 690 berries of the ivy, also some portion of the rape-leaf, which I suppose was eaten to digest the ivy-berries.”

As a set-off to all this mischief, St. John remarks,—“Although without doubt a consumer of great quantities of grain, at some seasons the Wood-Pigeon must feed for many months wholly on the seeds of weeds, which, if left to grow, would injure the farmer’s crops to a very serious extent.”

It is a mooted question whether there be not a great influx of these birds from the Continent during the months of autumn. For my own part, I am inclined to think that there is; for how otherwise are we to account for such streams of them as those described by Mr. Illsey? That their wing-power is sufficient to enable them to cross the German ocean there can be no doubt. That great migratory movements are natural to the Pigeon tribe we have abundant evidence; but it will only be necessary to cite the case of the Passenger Pigeon of America, which excites the astonishment of every one who beholds it during its transit from north to south, or *vice versa*. Besides England, Scotland, and Ireland, the Wood-Pigeon is found over all the temperate parts of Europe; it also occurs in North Africa, Palestine, and, according to Mr. Jerdon, in Western Asia.

The breeding of this familiar species is so well known that it is scarcely necessary to allude to it. Its two oblong white eggs may be seen any day during the spring and summer months on its slight platform of sticks by any person who will seek for it in the woods and shrubberies. The nest is usually placed on the horizontal branch of a fir, or in the middle of a mass of ivy growing on large trees. It rears two, and sometimes three broods in a year. It often commences laying early in April; and its ugly squabs of a later hatching may be seen sitting side by side on their slight and flat platform as late as September and October. The male and female sit by turns.

The two sexes are alike in colour; but the female is somewhat smaller than the male. The flesh of the Wood-Pigeon is both good and palatable, especially if they have not been feeding upon turnips.

The figure is of the natural size.

DSI



COLUMBA ŒNAS, *Linn.*

Stock-Dove.

Columba œnas, Linn. Faun. Suec., p. 75.

Palumbœna columbella, Bonap. in Parz. Cat. des Ois. d'Eur., p. 9. sp. 311.

IN form, size, and colouring, the Stock-Dove is directly intermediate between the Ring-Dove and the Rock-Dove, and it is equally so in its economy, particularly in its habit of flocking together during the months of autumn and winter, as well as in its mode of breeding, or rather the situations chosen for its nest; for while the Ring-Dove almost invariably places its light nest on the flat branches of trees, that of the Rock-Dove is constructed in caverns and holes in the rocks; the Stock-Dove, on the other hand, usually nestles in holes of pollard trees or on their tops, near the bole or in a fork formed by the bifurcation of two branches: but, as will be seen below, it has been stated to lay in other situations; these, however, must be regarded as exceptional.

British ornithologists are somewhat divided in their belief as to whether this bird is a migratory or a stationary species. It may be both; for the bird is certainly found here in winter as well as in summer, but I believe I have certain evidence of great numbers arriving in our island from the south during the months of spring. It appears to be as plentiful in all the central parts of the European continent as it is with us. Bailly states that it is abundant in Savoy during its spring and autumn migrations; Mr. Wright informs us that it visits Malta at the same seasons, but does not remain to breed; Captain Loche enumerates it among the birds of Algeria; and examples were sent to the Zoological Society from Persia. I have never seen an example from India, and Mr. Jerdon does not include it in his work on the birds of that country. It evidently does not go far north; for Macgillivray states that it is never found in Scotland, and it is not mentioned in Thompson's 'Natural History of Ireland;' yet M. Nilsson includes it among the birds of Sweden. In England it is very generally dispersed over the central parts of the country, from the New Forest to the great rabbit-warrens of Suffolk and Norfolk. Among other situations near London in which this bird annually breeds, I may state, on the authority of Mr. Jesse, that a few pairs take possession of the old oak-pollards in Richmond Park; and I have myself observed it similarly engaged in the fine woods at Cliefden, Hedsor, and Taplow, and I have no doubt that it is equally numerous in all such situations in Middlesex, Essex, and the other neighbouring counties. In a very interesting letter from Mr. Alfred Newton, who some years ago kindly sent me several examples of this bird as studies for this work, that gentleman says, "With us these birds generally breed in the rabbit-burrows; and it is a very enjoyable sight to watch a pair at the mouth of a burrow on a fine afternoon in early spring, the sun warmly lighting up the bright yellow sand so as to make it contrast beautifully with their sober-coloured plumage. The male, with his neck inflated almost to the size of his body, with his wings drooping, and his tail out spread, walks with hurried steps backward and forward on the short rabbit-cropped turf above the hole, at the same time rolling out his loud rumbling love-story to his mate as she lies lazily on the loose dry sand. Crouching down behind a bank and gazing around, we find nothing to break the horizon save a ragged fern-stalk or the ears of a rabbit nibbling the lawn-like grass: a male Wheatear may, perhaps, suddenly spring up, perform his odd series of gesticulations, and sing; but there is little else to enliven the scene, and all one's attention is directed to the principal objects in it—the happy pair of Stock-Doves. When they return to the burrow after having been out to feed, and are about to alight, the male performs the same evolutions that the male tame Pigeon does, soaring round in circles and smiting his wings. One can generally recognize the bird at any distance by this peculiarity."

Mr. Harting informs me that this bird sometimes breeds in rocks, and, in his letter on the subject, says—

"During the nesting-season of 1865, I spent a fortnight on the Dorsetshire coast, and explored the cliffs between St. Aldham's Head and Weymouth, in order to ascertain what birds were breeding in that locality. I had been told that I should find the Rock-Dove (*Columba livia*) there, and should have little difficulty in procuring examples of the bird and its eggs: although I was out from morning to night, I did not even see the bird; but I found another Pigeon breeding among the cliffs in limited numbers. This, even at a glance, could not be mistaken for the true Rock-Dove, as it had not the white rump, nor the double bar on the wing, peculiar to that species. I did not suspect it to be the Stock-Dove, because most authors state that that bird 'never breeds in rocks and cliffs like its congener the Rock-Dove;' I therefore supposed it might be a cross between the Stock-Dove and some escaped Dove-cote Pigeons. In order to settle the point I obtained two young birds from a nest in the cliffs and brought them home with me. One of them by an accident escaped; the other I have still in my aviary. It is now in fine plumage, and last

week I submitted it to the inspection of Mr. Tegetmeier, an authority respecting Pigeons, who decided that it was undoubtedly a Stock-Dove, and added that the fact of this species resorting to cliffs to breed, not accidentally, but in small numbers, was interesting and hitherto unknown."

"Although far less numerous, and more locally distributed than the Ring-Dove," says Mr. Stevenson in his 'Birds of Norfolk,' "the Stock-Dove is plentiful at certain times of the year and in certain parts of the country, particularly the north-eastern and south-western districts. In the latter, with the exception of about four months (from the middle of September to the middle of January, or even later if the winter be much prolonged), it is found, if not in great abundance, yet in sufficient numbers to be one of the most characteristic birds of that part of that open country. During the latter part of the autumn and beginning of winter, though not, perhaps, absolutely absent, yet it only occasionally appears, and then generally flocked with Ring-Doves. That accurate naturalist, the late Mr. Salmon, states that the Stock-Dove, which in all 'works upon natural history is stated to be only an inhabitant of woods, abounds in this neighbourhood during the spring and summer months, upon our rabbit-warrens and heaths, to which it annually resorts for the purpose of nidification, and it is in general the first that arrives in the district for that purpose. The situation which it selects for its nest differs materially from that chosen by its congeners, the Ring- and Turtle Doves, the nests of which are always placed upon trees or bushes; this species, on the contrary, occupies the deserted rabbit-burrows upon warrens, and places its pair of eggs about a yard from the entrance, generally upon the bare sand, sometimes using a small quantity of dried roots, &c., barely sufficient to keep the eggs from the ground. Besides such situations, on the heaths it nestles under the thick furze bushes (*Ulex europæa*), which are impervious to rain, in consequence of the sheep and rabbits eating off the young and tender shoots as they grow, always preferring those bushes that have a small opening made by the rabbits near the ground. A few pairs occasionally breed in the holes of decayed trees. It generally commences breeding by the end of March, or the beginning of April, the young ones, which are very much esteemed, being ready for the table by the commencement of June." Mr. Alfred Newton tells me that the young Stock-Doves, being a perquisite of the warreners, are a source of not inconsiderable profit, as they sell them for from eighteen pence to two shillings a couple, and that almost every warrener keeps a "dow-dawg," *i. e.* a dog regularly trained to discover the burrows in which the doves breed. Mr. Scales, of Beechamwells, adds that "when the warreners find them in a burrow, they fix sticks at the mouth of the hole in such a manner as to prevent the escape of the young, but to allow the old birds to feed them." Mr. Newton, however, informs me that this precaution is thought unnecessary; for the more experienced warreners, from long practice, know to a day (after once seeing the nestlings) when they will be fit to take. Along the extensive range of sandhills in the neighbourhood of Hunstanton also, the Stock-Doves may be found breeding in considerable numbers, and likewise on Holt Heath and other similar localities; indeed I have no doubt that with careful observation a few pairs might be found in summer in many rough furze-covered spots where rabbits are preserved; but this peculiarity in the habits of the Stock-Dove is by no means generally known. In 1863, a friend of mine, whilst ferreting on Mr. George's farm, at Eaton, near Norwich, was not a little surprised at seeing a pigeon flutter out of a rabbit's hole (half hidden by thick gorse, in the steep side of a sandpit) into which he had just previously turned his ferret: the bird was caught by a terrier before it could take flight, and proved to be an old Stock-Dove; but on a subsequent examination of the burrow no eggs or young were found. I may add that in that neighbourhood the bird is by no means common. This species, however, in certain districts, also breeds in our woods and plantations with the common Ring-Dove, but in such situations it nests either in the holes of old trees, using only a few sticks by way of lining, in the stocks of old oak-pollards (from which circumstance, according to Yarrell, it has acquired the name of Stock-Dove), or, as my friend Mr. Edwards informs me, in any faggot-stacks left in the plantations for the summer, the nest being generally placed at the bottom should sufficient space remain for the purpose. Mr. Newton has also found a pair of eggs of this bird at Elveden, near Thetford, "laid on a very thick bushy bough of a Scotch fir tree, about twelve feet from the ground, without any nest." Mr. Samuel Bligh, who has studied the habits of this species during the breeding-season at Framingham Earl, says that their actions are occasionally anything but *dove-like*, as they fight most desperately, till one or both fall to the ground. He has shot them in the very act."

The sexes are very similar in outward appearance; but the female is rather smaller than the male, and is a trifle less brilliant in colour, particularly in the glossy hues of the green and purple metallic tints which adorn the sides of the neck.

The eggs are white, oblong in form, and very similar to those of the common Ring-Dove.

The Plate represents a male and the head of a female, of the size of life.



COLUMBA LIVIA, Temm.

COLUMBA LIVIA, Temm.

Rock-Pigeon.

Columba ænas, Linn. Syst. Nat., tom. i. p. 279.

——— *domestica*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 769.

——— *livia*, Temm. Man. d'Orn., 1815, p. 278.

OF the few members of that great family the *Columbidæ* which have a place in the British avifauna, the present species must ever be regarded with especial interest, inasmuch as it is one of those birds which was earliest known, and which, from its being very common in Egypt and Palestine, must have been as familiar to the Egyptians of the days of Pharaoh as it is to the descendants of that ancient people at the present day.

“On one of the walls of the Temple of Medinet Haboo,” says Dr. Adams, “is a sculpture, of the time of Rameses III. (B. C. 1297), representing that famous monarch as having just assumed the crown of Upper and Lower Egypt. The procession is moving on in regal state and in all the pomp and splendour of the time, whilst a priest is letting off four Carrier Pigeons to announce the glad tidings to every quarter of the globe. This is very interesting, as it shows that Pigeons were then used for the purpose of conveying information. According to Horapollo, the flesh of Pigeons was greatly esteemed; and there are records of their having been eaten as early as B. C. 3000.”

It is in the chasms, caverns, and holes of the most precipitous and dangerous cliffs and promontories facing the raging ocean, and the abrupt sides of rocky hills in the interior of the country, that the Rock-Dove finds a congenial home wherein to dwell and rear its young; and so strong is its rock-loving habit that it is retained by all the numerous varieties that have sprung from it, not one of which, so far as I am aware, ever exhibits any arboreal propensity.

The geographical range of the Rock-Dove is extremely extensive, the bird being found as far north as the Faroe Islands, and southward at Teneriffe and Madeira, in North Africa, most of the rocky islands in the Mediterranean and in Greece, and of course in all suitable situations in the intermediate countries; it is said to proceed as far to the eastward as Lake Baikal; and Temminck states that Japanese specimens do not differ in any respect from those obtained in Europe and Africa. The most complete account of its distribution over our islands is comprised in the following extract from Mr. A. G. More's valuable paper “On the Distribution of Birds in Great Britain during the Nesting-season,” published in ‘The Ibis’ for 1865:—

“Commencing from the south of England, the Rock-Dove used to breed formerly at Purbeck (*Rev. H. Austin*); but there is no direct evidence of its ever having bred in the Isle of Wight. Mr. E. H. Rodd includes it in his list as breeding occasionally in Cornwall. The Rev. M. A. Mathews has obtained it building in the cliffs about Lynton. Mr. W. D. Crotch reports it as breeding in Somersetshire; and it is said to be common in Gloucester and Monmouth. Sir W. Jardine gives Caldey Island as a locality; and Mr. Tracy marks it as breeding in Pembrokeshire. The Rev. H. Harpur Crewe has observed it breeding in Denbighshire; and there are probably several other localities in South and North Wales. Mr. J. F. Brockholes tells me there is a colony at Beeston Castle, Cheshire, and that he once noticed a pair frequenting the high banks of the Mersey during the breeding-season. Mr. C. S. Gregson informs me that the Rock-Dove breeds at Whitbarrow Scar; and Mr. J. B. Hodgkinson has found its nest occasionally in Cumberland.

“The Rock-Dove is numerous in many localities along the west coast of Scotland, especially in the isles; and abounds in the Outer Hebrides, in Orkney, and in Shetland, and, though less numerous on the east coast of Scotland, breeds regularly in Caithness, Elgin, Banff, and in a few localities in Aberdeenshire, at Down Castle, Stirling, in the Isle of Man, on the Bass Rock, and at Fast Castle, Berwickshire. On the east coast of England, the Rock-Dove breeds only at Flamborough; it also breeds in a few rocky valleys or inland cliffs in Derby, York, Leicester, Stafford, Shropshire, and Somerset.”

Mr. Tristram's account of this species and its ally or variety, as the case may be (the *C. Schimperi* of recent writers), as seen by him in Palestine, is so interesting that I cannot refrain from quoting the passage, since it serves to show how vastly numerous these birds are in that part of the globe where they were probably first taken, tamed, and brought under the influence of man; neither can I omit some extracts from the writings of St. John and Macgillivray on the *Columba livia* as observed by them in its British home.

The myriads of Rock-Doves in Palestine, says Mr. Tristram, “are beyond computation, far exceeding even the clouds of domestic Pigeons. Few countries are so admirably adapted for them, abounding as the

Holy Land does in deep gorges, with precipitous cliffs of soft limestone honey-combed in all directions by caves and fissures. Several of these gorges are named, from the multitude of Pigeons they contain, 'Wady Hamam,' *i. e.* Ravine of Pigeons. One of the most remarkable of these is the Wady Hamam leading from the plain of Gennesaret at the south-west, where are the famed robbers' caves, inhabited by thousands of Rock-doves, whose swift flight and roosting-places far in the fissures render them secure from the attacks of the many Hawks that share the caverns with them. They also swarm in the ravine of the Kelt, by Jericho, in the sides of the Mount of Temptation, and in the Kedron. Above all, they people the recesses of the cliffs which shut in the Arnon and the Zerka, in the land of Moab, as they did in the time of Jeremiah. The Rock-Pigeon of these districts is the same as the *Columba Schimperi* of Egypt. On the coast, however, and in the colder highlands, the *C. livia* is the common bird. Neither bird migrates in Palestine, and we found the eggs and young at all times of the year."

"The hardy little blue Rock-Pigeon (*Columba livia*)," says St. John, "abounds on all the sea-coast of Scotland where the rocks are steep and broken into fissures and caverns. One moment dashing into its breeding-place, and flying out the next, then skimming the very surface of the breakers, it gives animation and interest to many a desolate and rugged range of cliffs as far north as Cape Wrath and Whiten Head; and it still frequents the rocks on this coast, though in small numbers, and is so intermingled with the House-Pigeon (which it so exactly resembles), that it would be difficult to decide if any of the wild birds still remain. In the caves on the Ross-shire coast, and all along the north, great numbers are still seen. They build in the caves and holes of the rocks close to the sea-side; and the nest is usually placed in the most inaccessible and difficult recesses of the rocks—so much so that, numerous as they are, it is often very difficult to obtain their eggs. The nest is composed of whatever twigs, pieces of dried grass, &c. they can pick up in the wild places they inhabit, and is precisely like that of the tame Pigeon."

Macgillivray states that, "at early dawn, the Pigeons may be seen issuing from their retreats among the rocks in straggling parties, which soon take a determinate direction, and, meeting with others by the way, proceed in a loose body along the shores until they reach the cultivated parts of the country, where they settle in large flocks and diligently seek for grains of barley and oats, pods of the charlock, seeds of the wild mustard, polygona and other plants, together with several species of small-shelled snails, especially *Helix ericetorum* and *Bulimus acutus*, which abound in the sandy pastures. When they have young, they necessarily make several trips in the day; but from the end of autumn to the beginning of summer they continue all day in the fields. In winter they collect into flocks, sometimes composed of several hundred individuals, and at this season may be easily approached by creeping and skulking; but in general they are rather shy.

"The notes of the Rock-Dove resemble the syllables *coo-roo-coo* quickly repeated, the last prolonged. It is monogamous, and its nuptials are celebrated with much cooing and circumambulation on the part of the male. A love-scene among the rocks is really an interesting sight. Concealed in a crevice or behind a projecting cliff, you see a Pigeon alight beside you and stand quietly for some time, when the whistling of pinions is heard and the male shoots past like an arrow and is already beside his mate. Scarcely has he made a rapid survey of the place when, directing his attention to the only beautiful object he sees, he approaches her, erecting his head and swelling out his breast by inflating his crop, and, spreading his tail at the same time, uttering the well-known *coo-roo-coo*, the soft and somewhat mournful sounds of which echo among the cliffs. The female, shy and timorous, sits close to the rock, shifting her position a little as the male advances and sometimes stretching out her neck as if to repel him by blows. The nest is formed of withered stalks and blades of grass and other plants, not very neatly arranged, but disposed so as to answer the intended purpose. Two beautiful white eggs of an elliptical form are then deposited; and in due time the young make their appearance.

The front figure is of the natural size. There is little or no difference in the plumage of the sexes.

It would be out of place here to give any account of the numerous domesticated varieties of the Rock-Dove, since they will be found amply described in 'The Pigeon-fancier's Manual' and similar publications; but I cannot refrain from alluding to the vast power of flight produced by constant cultivation in that known as the Carrier Pigeon, a bird which has been for ages employed, especially in the East, to convey intelligence from one distant point to another—a striking instance of which has just been called to my attention by H. W. Freeland, Esq., of Chichester:—"Last week the members of the Ornithological Society of Pesth despatched two carrier pigeons to Cologne, whence they had arrived two days before. Four Hungarian pigeons accompanied the Rhenish ones as an escort, but returned shortly after. The pigeons commenced their flight at 6 A.M.; and at five in the afternoon a telegram arrived from Cologne stating that they had reached that town at two, thus performing the whole distance between Pesth and Cologne (about 600 miles) in eight hours."—*Morning Post*, Thursday, June 9, 1870.



TOURNAI AURATUS, Ray

TURTUR AURITUS, *Ray.*

Turtledove.

Turtur auritus, Ray. Syn. Meth. Av. et Pisc., p. 184, tab. 26.

Columba turtur, Linn. Syst. Nat., tom. i. p. 284.

Peristera turtur, Boie, Isis, 1828, p. 327.

Turtur vulgaris, Eyt. Hist. Rarer Brit. Birds, p. 32.

THE Turtledove, at once the smallest and most elegantly formed of the British *Columbidæ*, is not a permanent resident with us, but strictly a migrant, and one which evinces a partiality for certain parts of our island to the exclusion of others; thus it is more abundant in the southern and central portions of England than it is in those further north. Wherever it appears in spring it is hailed with pleasure as an indication that summer is coming; for it is not until the strong gales of March have exhausted their fury, the showers of April passed away, and May somewhat advanced, that its pleasing “turr” is heard in our woods and shrubberies, or that its slight flat nest among the branches, and its two immaculate eggs, can be detected. From Africa direct, with but little delay on the road, has the Turtle followed in the rear of our other summer visitants. Of late years it appears to have increased in number among us, and to have extended its range in a northerly direction; for within my own recollection it was extremely scarce in the border counties of England and Scotland, but now, like the Missel-Thrush and the Starling, it is observed there much more frequently than heretofore. Its stay with us not extending to the seed- and root-time of autumn, little mischief can be attributed to this docile and pretty bird, and therefore a price need not be put upon its head (as in the case of the Wood-Pigeon), its principal food consisting of the seeds of the vetch and wild plants, the tender shoots of herbs, and small-shelled snails.

“The Turtledove has the discredit,” says the Rev. C. A. Johns, “of resorting to fields of green wheat, for the sake of feeding on the milky grain. I am doubtful if this charge can be sustained. Often enough, when walking through a cornfield, one may see two or three Turtledoves rise suddenly from the thick corn, with a rustle and low cry of alarm, rapidly dart away in the direction of the nearest grove, disappearing in the shade, all but the white segment of a circle formed by the tips of their tail-feathers; but, on examining the spot from which they rose, I have been unable to detect any ears of corn rifled of their contents—though the ground was thickly matted with weeds, which might have furnished them with food. I have been informed by a young friend, who has often shot them while rising from such situations, that he has invariably found their crops distended with the green seed-vessels of a weed common in corn-fields—the corn-spurry (*Spergula arvensis*). This being the case, the Turtledove is more a friend than an enemy to the farmer, even if it sometimes regales on ripe grain or interferes with the occupation of the gleaner.”

How much would the delights of summer be detracted from were we not visited by nearly forty spring migrants! Without the Swallow and its kindred, the sultry heat would be unbearable, from the inordinate increase of tormenting insects. The croak of the frog and the crake of the Landrail assist at this time in breaking the monotonous stillness of night; and the cooings of the Dove relieve the mind by calling up soothing and pleasing thoughts not easily described.

When the Turtle comes to us, in spring, it generally arrives in pairs; in the autumn, on the other hand, the various broods assemble in our corn-fields and arable lands in considerable flocks, and in the month of September migrate in a southerly direction, through Portugal and Spain, to Morocco, where, in all probability, these, as well as many other birds that visit us in summer, pass the winter; while those which have summered in the eastern parts of the European continent proceed to Algeria, *viâ* the Maltese group of islands, where, for a few days in spring and again in autumn, the Turtle is especially numerous, and large numbers are captured at the former season in nets, precisely after the manner employed by the bird-catchers in this country. “As an illustration of the great power of flight of these birds,” says Mr. Wright, “it may be mentioned that thousands of them are annually to be seen passing over Malta without alighting. When they reappear in September they are on their way from Europe, and are not generally so plentiful as in spring. At this time they consist chiefly of birds of the year, which want the collar of the adult, and are altogether of a duller hue.”

Mr. Yarrell mentions that he could find no notice of the Turtledove visiting any part of Scandinavia; but Magnus von Wright includes it in his ‘Birds of Finland;’ and the late Mr. Wheelwright remarks:—“Strange to say, a pair of Turtledoves were shot at Quickiock a few years since, on the ground in front of the priest’s house.” Still its occurrence in that part of the European continent must be regarded as exceptional; from its central regions, however, to the shores of the Mediterranean it is more or less abundant in summer,

and in summer only, as it is with us. Mr. Fellowes met with it in Asia Minor; Mr. Strickland in Persia; Lieut. Sperling has seen it in abundance in Syria, Rhodes, Candia, the Ionian Islands, and Greece; Mr. Salvin found it in the Eastern Atlas; Loche states that it frequents the whole of Algeria; and we learn from the Rev. H. B. Tristram's interesting "Notes on the Ornithology of Palestine" that, "of the three species of Turtledoves inhabiting that country, the present one is by far the most abundant, but only in spring and summer, returning about the end of March and overspreading every part of the country, highland and lowland alike." In his valuable little work, 'On the Natural History of the Bible,' he says:—"But the Turtledove to which, no doubt, the various Scriptural passages refer is our own (*Turtur auritus*). Its return in spring is one of the most marked epochs in the ornithological calendar. 'The Turtle and the Crane and the Swallow observe the time of their coming.' 'For, lo, the winter is past, the rain is over and gone; the flowers appear on the earth; the time of the singing of birds is come, and the voice of the Turtle is heard in our land.' Search the glades and valleys, even by sultry Jordan, at the end of March, and not a Turtledove is to be seen. Return in the second week in April, and clouds of Doves are feeding on the clovers of the plain. They stock every tree and thicket. At every step they flutter up from the herbage in front, they perch on every tree and bush, they overspread the whole face of the land. So universal, so simultaneous, and so conspicuous is their migration that the prophet might well place the Turtledove at the head of those birds which 'observe the time of their coming.' While other songsters are heard chiefly in the morning or only at intervals, the Turtle, immediately on its arrival, pours forth, from every garden, grove, and wooded hill, its melancholy yet soothing ditty unceasingly from early dawn till sunset. From its fidelity to its mate, and its habit of pairing for life, among other reasons, the Dove was selected as a symbol of purity and an appropriate offering by the ancient heathens, as well as the Jews. Its amateness is referred to in the Song of Solomon; and its gentle eye has supplied several comparisons:—"Behold, thou art fair; thou hast Dove's eyes within thy locks." "His eyes are as the eyes of Doves by the rivers of waters, washed with milk and fairly set," alluding to the bright red skin round the dark eye of the Turtle.

"The Turtledove is more numerous in Palestine than in any other country where it is found; and, indeed, the Pigeon-tribe generally abound there to a degree unknown in other countries. This is accounted for by the botanical character of that region, where the herbage principally consists of leguminous plants of the clover and allied species, the leaves of which supply the food of most Pigeons. Owing, therefore, to the luxuriant growth of the clovers and lucernes, there is no limit to the number of Doves the Holy Land can maintain in spring and summer."

The Turtledove is a frequenter of woods, fir-plantations, and the thick and high hedges between cultivated lands. The nest is a thin, transparent, flat structure, composed of a few small crossed twigs, and is usually placed on a horizontal branch, at about eight or ten feet from the ground. The eggs, which are deposited about the middle of June, are white, somewhat pointed at one end, rather more than an inch in length, and nearly an inch in breadth. "The parent birds," says Mr. Yarrell, "sit by turns; the male occasionally feeds his mate during incubation; and both afterwards mutually labour for the support of their young. In this country they are considered as producing but one brood in the season; but in the south of France they are known to have a second pair of young. In the autumn they fly in small parties of ten or twelve, and leave this country about the end of August, and sometimes as late as the end of September, particularly in those seasons when our harvest is backward. . . . I have observed that these birds are more numerous in the thickly wooded parts of the middle of Kent than elsewhere:" this agrees with my own observation; for I have seen it breed there in great numbers, and have remarked that it has become still more numerous now the pilfering Jays, who constantly robbed them of their eggs, have been killed down.

There is no difference in the external appearance of the sexes; but the young are destitute of the neck-mark, and are altogether duller in their colouring—particularly in the less pure blue-grey of the head, and the chestnut and black markings of the back and scapularies. At this age, too, the naked orbital skin is bluish, instead of red, the nostrils are large and swollen, and, as well as the bill, of a uniform dark olive; front of the tarsi and toes reddish purple; hinder part of the tarsi destitute of scutella, and of a greyish white.

The Plate represents a male and a female, with the nest, all of the natural size. The plant is the *Clematis vitalba*.



TETRAO UROGALLUS, Linn.

TETRAO UROGALLUS, *Linn.*

Capercaillie or Cock of the Wood.

Tetrao urogallus et hybridus, Linn. Faun. Suec., p. 72.

——— *major, crassirostris et maculatus*, Brehm, Vög. Deutschl., pp. 503, 504.

Urogallus major, Briss. Orn., tom. i. p. 182.

——— *vulgaris*, Flem. Hist. of Brit. Anim., p. 46.

Tetrao medius, Meyer, Mag. der Gesellsch. naturf. Fr. zu Berlin, 1811.

——— *intermedius*, Langsd. Mém. de l'Acad. à Pétersb., 1811, tom. iii. p. 286.

TIME was, and that not so very long ago, when the British Islands wore an aspect very different from that which they now present. So recently as the twelfth century England was covered with dense forests of oaks and other trees, and probably the larger portion of Scotland with great pine-woods, the remains of which are to be found in her peat bogs and morasses. At that period the wolf, the wild boar, and the beaver, now extinct, ranged at large just as the badger, the otter, the martin, and the foumart do at the present time, though even their existence, like that of their predecessors, becomes more and more precarious every year. A similar fate has obtained among the more remarkable of the birds which then tenanted our islands. It is comparatively but a short time since the Great Auk was plentiful along our northern coasts, and still less since the Bustard stealthily walked over our extensive downs and plains; but now the occurrence of a straggler flying over from the Continent at indefinite periods are all that we hear about the latter bird. The gradual physical changes effected by time appear to have been the means of extirpating some of the species alluded to from Great Britain; but I fear the hand of man has contributed in no slight degree to that of the Great Auk, the Bustard, and the Capercaillie. This latter splendid Grouse was lost to us nearly a hundred years ago, but has recently been reintroduced through the laudable spirit and liberality of some of our more wealthy highland proprietors, and has again become very numerous on many Scotch estates.

Owing to the absence of the Capercaillie from our islands during the early part of the present century, when a renaissance of the study of natural history took place, none of the writers on our native birds had an opportunity of observing its habits, manners, and economy; and Macgillivray, Yarrell, and Thompson were all obliged to quote largely from Mr. Lloyd's 'Field sports of the north of Europe,' 'The Game Birds and Wild Fowl of Sweden and Norway,' &c.; nor can I do better than follow in their wake, inasmuch as those interesting volumes contain the fullest account of the bird that has yet appeared; I shall therefore take such extracts from the latter book as appear to me of general interest, and refer my readers to the work itself for many curious anecdotes as to the sport it affords, the various modes of shooting and trapping it, &c.

"The Capercali or Capercaillie," says this gentleman, "has a wide geographical range, extending at least from the vicinity of the Frozen Ocean to the Spanish Pyrenees. Temminck says, indeed, it has been met with in some of the islands of the Grecian archipelago, in Siberia, and throughout a large portion of the Russian Empire in Europe, including Poland and Livonia. In the mountainous and wooded districts of Hungary, Germany, and Switzerland it is met with more or less frequently. It is also found in some parts of France, though, perhaps, rather sparingly. Throughout all the wooded parts of Scandinavia, from Altengaard, in Norway, 70° N. lat., where the northernmost pine-forests in Europe exist, to the northern portion of Scania—in short, wherever the pine-tree flourishes, it is pretty common.

"The chosen haunts of the Capercali are mountainous and hilly districts where pine-woods abound, particularly such as are of mature growth, and studded with lakes and morasses. Sometimes, however, it is met with in woods interspersed with deciduous trees, more especially the oak, as it feeds freely on acorns. Excepting in the autumn and when the young are small and follow their mother, these birds are seldom seen in brush-woods or even in the woods of young growth, and then only when in the vicinity of great woods.

"During the summer the food of the Capercali consists chiefly of several kinds of plants, ferns, buds of certain trees and bushes, such as the alder, birch, and hazel—of acorns, where procurable—of almost all sorts of berries found in the northern forests, as, for example, the cranberry (*Vaccinium Oxycoccus*, Linn.), the red whortle-berry or cowberry (*Vaccinium Vitis-idaea*), the common bilberry or bleaberry (*Vaccinium Myrtillus*), the wild strawberry (*Fragaria vesca*), the juniper berry (*Juniperus communis*)—and of insects, &c. It also feeds on the leaves of the Scotch fir (*Pinus sylvestris*, Linn.) and of the spruce-pine (*Pinus Abies*), though of the latter, so far as my observation goes, very sparingly. The larch (*Pinus Larix*, Linn.) is unknown in Sweden, excepting in ornamental plantations; but the late Lord Breadalbane told me that at Taymouth Castle, where that tree abounds, the Capercali feed on its leaves with avidity. In the winter time, when the ground is deeply covered with snow, and berries &c. not readily procurable, the Capercali would seem to subsist almost entirely on the leaves of the trees named. The young feed, at first, on insects, larvæ, ant-eggs, and small worms, but soon learn to eat the several kinds of berries specified, and, by degrees, acorns and pine-leaves.

"The Capercali is a polygamist, and in the spring of the year collects the hens about him by means of his *spel* or love-song. The *lek-tid*, or pairing-season, usually commences towards the end of March or beginning of April—the time more or less depending on the mildness or severity of the weather, the state of the snow &c.—and continues until the middle or the end of May. The *lek-stalle*, or locality where affairs matrimonial are carried on, is commonly a wooded eminence near a morass, tarn, or opening in the forest, sometimes, however, 'on a level rock, with fir trees growing in and about it.' The *lek-stalle* is generally of some extent; and the Capercali resort to it year after year, unless the trees have been felled or the forest otherwise disturbed. The oldest or strongest male is the first in the spring at the *lek-stalle*; and in the more northern forests, even when the snow is deep on the ground, he commences his *spel*, either on the surface of the snow—on which the marks of his trailing wings, where he has paraded to and fro, are often visible,—or perched on the upper branch of a pine. At such times his neck is stretched out, his wings droop, and his tail spread out like a fan.

"The *spel* of the Capercali consists of three notes. An attempt has been made to imitate it by the following words:—First note, *Pellep!-Pellep!-Pellep!* Second note, *Klickop!* Third note, *Hede!-Hede!-Hede!-Hede!* The first note is said to resemble two dry sticks struck together; the second has been likened to a sort of gulp in the throat, the noise made when the tongue is sucked against the palate, or when a cork is drawn out of a bottle; the third has been compared to the sucking in of the breath, or the sound caused by sharpening an edged tool on a whetstone. The utterance of these notes may occupy from two to three minutes; and, provided the bird be not in any way disturbed, he immediately repeats them, and continues to do so almost without ceasing. His *spel* is not loud, and, if there be wind stirring at the time, cannot be heard at any considerable distance. In the most favourable weather, indeed, it is not audible at more than one hundred and fifty to two hundred paces.

"On hearing the *spel* of the cock the hens assemble at the *lek-ställe* from all parts of the surrounding district, and alight on the very tree where he is perched, or on others in the immediate vicinity, when they make their presence known by their somewhat melancholy call-note, resembling the words *Gock! Gock! Gock!*, or, rather, perhaps, the croak of the Raven. A little before sunrise the cock usually descends from his perch and alights on some open spot in the forest close by, where the hens collect about him; and here during the intervals of his *spel*, which he still continues, and whilst parading amongst the ladies of his harem, he pairs with each in succession. Immense excitement is then exhibited by both sexes; the female flitting round and round her lord with outstretched neck and hurried movements as if challenging his notice, until at length it nestles close beside him and solicits attentions which his gallantry ultimately accords.

"During the pairing-season the Capercali is very pugnacious; and fierce combats are then common between rival males. These always take place on the ground, and for the most part on some little eminence free from brushwood or other obstruction. The birds when charging each other spring high in the air, in the manner of game-cocks, and while striking with their wings tear one another with their claws. Their bills are also brought into play, and he that succeeds in getting such fast hold of his opponent as to pin him to the ground, in which position he punishes him severely, usually comes off the victor. Whilst the fight lasts, and it is often of long continuance, the combatants not unfrequently snap their bills together with great force, the noise of which, together with that caused by the blows inflicted with their wings, may in clear and calm weather be heard at a considerable distance. During these duels the birds are not unfrequently so blinded by rage as to be entirely forgetful of their own safety, and, if due precaution be used, may then be captured by the hand.

"It is fortunate for the sporting world that the Capercali is once more included in the British fauna; and I feel proud in having been a contributor to so desirable an event. Years ago I volunteered my services to more than one influential proprietor in Scotland; but for a long time no one would move in the matter. In the autumn of 1836, however the late Sir Thomas Fowell Buxton, 'influenced by a desire to introduce these noble birds into Scotland, coupled with that of making a return to Lord Breadalbane for some recent kindness,' requested me to procure, at whatever cost, the requisite number; and within a few months twenty-nine, followed shortly afterwards by twenty more, were forwarded to Taymouth Castle, and, with a single exception, arrived in safety. The success of the experiment was fully realized; and it is very satisfactory to add that the Capercali have subsequently flourished in the Highlands in an extraordinary manner. A few years ago, Lord Breadalbane told me he imagined there were fully a thousand on the Taymouth property; and his head keeper estimated them at double the number."

It is hardly necessary for me to speak of the disparity in the size of the sexes, since it is well known to most persons; but I may mention that the male is twice the size and weight of the female, whose remarkably barred markings are well shown in the accompanying Plate. Neither is it necessary to say more than that the bird forms an important article of commerce, every poulterer's shop in London and other large towns being amply supplied with it during the months of winter and spring; they are principally imported from Norway, and frequently in a frozen state.

The Plate represents both sexes, about two-thirds the natural size.



TETRAO TETRIX, Linn.

TETRAO TETRIX, *Linn.*

Blackcock.

Tetrao tetrix, Linn. Faun. Suec., p. 73.

——— *juniperorum*, Brehm, Vög. Deutschl., p. 509.

——— *rupestris*, Brehm, *ibid.*, p. 513.

Urogallus tetrix, Kaup, Natürl. Syst., p. 180.

Lyrurus tetrix, Swains. Faun. Bor. Amer., p. 497.

How little interest would attach to any one class of the earth's productions were variation not to occur among them! Infinite, indeed, is the variation of colouring and form among birds and every other class of animated creatures! Nature evidently revels in variety; and marvellously does she display it. Who is there that does not derive pleasure from viewing the resplendent hues of the Monaul or Impeyan Pheasant of the higher regions of Asia, or the brilliant Flycatchers (*Pericrocoti*) of the plains of India? Who can examine the *Trochilidæ* of the New World, or the Birds of Paradise of the Old, without being amazed at the many variations, both of form and colouring, which occur among them? These remarks have been called forth by my observing that in like manner a great variation also exists in that more sombre-coloured but important family of Birds the *Tetraonidæ*, or Grouse, among which the present species is rendered especially conspicuous by the remarkable lyre-shaped tail of the male, which is sufficiently familiar to every one from its being worn in the bonnets of our northern neighbours as an emblem of their country: and well may the Highlander be proud of this noble bird, since it is in his portion of the British Islands that it is principally found; for while, with the exception of the Outer Hebrides and the Orkney Islands, the Blackcock is to be met with in all the shires of Scotland, from north to south, it is less numerous in many of the northern and still more so in some of the southern counties of England. In Ireland it does not now, if it ever did, exist; and of those which inhabit certain parts of England, some at least have undoubtedly been introduced. Out of England and Scotland, the Blackcock inhabits all the mountainous countries of Northern Europe, many parts of Germany, and some of France, Switzerland, and Savoy, going further south than either the Capercailzie or the Ptarmigan. Specimens from Switzerland have the tail much more produced than those frequenting England and more northern countries; and I have also seen examples from Siberia in which that organ was still more (indeed, extraordinarily) developed.

The *Tetrao tetrix*, although sometimes found in the heather, does not confine itself to the districts where that plant is existent, but especially loves to dwell on the sides of scrubby hills and sedgy bottoms that are sufficiently dense to afford it shelter from the sight of man and its other enemies. It readily perches on trees and bushes, dykes and stone walls, and such like. Its food consists of the tops of grasses and other vegetables, to which are added seeds and grain when procurable; neither does it reject the wild blauberries and whortleberries; ripened haws are also greedily eaten during the months of autumn and winter. It is polygamous in its habits, but deserts the female as soon as the period of incubation has passed, and then becomes very shy and wary. Like some others of the Grouse-tribe, the Great Snipe, and the Ruff, the Blackcock has its *lek* or meeting-place, where the males assemble, display themselves to the utmost advantage, and fight for the females. These and other habits of the bird are so well described in Mr. Lloyd's 'Game-Birds and Wild Fowl of Sweden and Norway,' that I shall be excused for transcribing his account from personal observation:—

"The sight of the Blackcock is reputed to be very piercing; and its senses of hearing and seeing exquisite, surpassing those of any of its confrères. Its flight, though somewhat noisy, is lighter than that of the Capercailzie; and it may often be seen flying both high in the air and to a long distance. Northern ornithologists tell us 'it is a wild, shy, and crafty bird.' To judge from its proceedings during the pairing-season, it is certainly of a most pugnacious and savage disposition.

"The Blackcock, like the Capercailzie, has its 'lek-ställe' or pairing-ground. A morass, a 'clearing' in the forest, or, it may be, the frozen surface of a lake is usually selected; and to the same locality, unless subjected to unusual disturbance, the birds resort for years together. The pairing-season usually commences in the more central and southern portion of the peninsula about the middle of March, or perhaps somewhat later, and continues until the end of May. But in the north, where the snow often covers the ground until the spring is far advanced, it begins and terminates somewhat later. The birds repair over night to the vicinity of the 'lek ställe,' where they assemble even before the first dawn of day. One and all make their appearance at the same time, the number depending on their abundance or

scarcity in the neighbouring country. At some pairing-grounds there are perhaps less than half a score, whilst at others there may be forty or fifty, or even more. The hens are probably fully as numerous as the cocks, but are less noticeable, from keeping more in the trees and amongst the bushes. As soon as the birds have alighted at the pairing-ground, the old cocks begin to 'kuttra' and 'blåsa,' and to make love to the hens (to which the latter are nothing loth) or to give chase to rivals. Whilst the cock is thus parading to and fro, with his neck stretched out, his wings trailing on the ground, and his expanded tail raised nearly at right angles to his body, he frequently vaults high in the air, and in the while so 'slews' his body round that, on alighting again, his head is turned in an opposite direction. At such times the young cocks keep at a respectful distance from the old ones, and 'kuttra' and 'blasa,' fighting the while amongst themselves.

"Desperate combats between the cocks are frequent at the 'lek-ställe.' They not only savagely charge each other, but make such effectual use of both bill and claws that the feathers fly in every direction. The victory usually rests with the bird that succeeds in getting secure hold of the head of his antagonist, whom he then drags about the arena until fairly tired out, and who, when released, is pretty sure to take wing and fly away. Battles royal between the congregated cocks are also not uncommon; and one may sometimes see several engaged in a regular *mêlée*, tumbling over one another. While the cocks are thus indulging in their combative propensities, the hens run to and fro with drooping wings, and uttering a dolorous cry, *äck, äck, ack, āā*, expressive of their anxiety for an embrace. Actual pairing would not seem to take place so much at the 'lek-ställe' itself as amongst the surrounding bushes. Matters thus proceed until sunrise, when the birds fly up into the neighbouring trees, where for a time the cocks are silent, as if resting from their labours. But presently they descend once more to the ground, and, for a short time, the game goes on as merrily as ever. The 'lek' over, the birds separate, each cock accompanied by the ladies of his harem. The pairing-season ended, the hens separate and retire to their respective breeding-grounds, which may either be in the more open part of the forest, or on the distant moorlands. The nest is a very simple affair, being a mere hole scratched by the hen in the ground under a bush or tussock. The eggs are from six to twelve in number, in colour yellowish-white, thickly sprinkled with small rust-red spots and blotches, which towards the thicker end are somewhat larger; in length they are two inches and one sixteenth, and in thickness one inch and one sixteenth. The period of incubation, according to some, is three weeks; to others, a month. It is said that if the old bird, whilst sitting, has occasion to leave the nest, she covers the eggs over with moss.

"Fourteen days after the chicks are hatched, we are told by Elstrom, they leave their nest and follow their mother; but it is not until they are seven weeks old that they begin to fly up into the trees and perch on the branches.

"The Blackcock is easily domesticated, and, if reared from a chick or taken young, soon becomes quite tame. In the rural districts of Sweden a caged Blackcock is often seen at the houses of the gentry, the bird being greatly admired by every one for its beauty and its song, which, though perhaps any thing but musical, is wild and pleasing, and during the pairing-season almost continual."

Speaking of this bird as seen in Scotland, Macgillivray says, "In autumn the Black Grouse, from its habits and mode of life, falls an easy prey to the sportsman; but in winter and the early part of spring it is shy and difficult to procure. As the males weigh from three to four pounds, and the females about two, it ranks among the most important of our native birds as an article of food. Its flesh is whiter than that of the Red Grouse, especially the smaller pectoral muscles, which are nearly as light-coloured as those of the Pheasant. The natural enemies of the Black Grouse are foxes, polecats, and a few of the larger rapacious birds, in particular the Golden Eagle and the Peregrine Falcon. It is alleged that in some districts, and especially in the south-western parts of Scotland, great injury is inflicted on the Black Grouse by adders and vipers, which abound on the heaths and in the plantations."

Writing in 1833, Mr. Selby says that the Blackcock was then very abundant in Northumberland, and had been rapidly increasing for some years previously, and that it was but sparingly met with in Staffordshire; it would appear, however, that in the latter county, as in the former, it has greatly increased, since Mr. Bond tells me that it is very abundant in Cannock Chase, where he has seen a flock of at least five hundred on the oaks and other trees, and that it is equally numerous in Chartley Park, the seat of Earl Ferrers.

The Plate represents a male and a female, about four-fifths the natural size.



LAGOPUS SCOTICUS.

LAGOPUS SCOTICUS.

Red Grouse.

Bonasa scotica, Briss. Orn., tom. i. p. 199, tab. 22. fig. 1.

Tetrao lagopus, Gmel. edit. Linn. Syst. Nat., tom. ii. p. 750, var. γ .

——— *scoticus*, Lath. Ind. Orn., vol. ii. p. 641.

——— *saliceti*, var., Temm. Man. d'Orn., 1815, p. 296.

——— *saliceti scoticus*, Schleg. Rev. Crit. des Ois. d'Eur., p. 76.

Lagopus scoticus, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 27.

Oreias scotica, Kaup, Natürl. Syst., p. 177.

THERE is, perhaps, no one of our British birds with which so many pleasing associations are connected as the Red Grouse, nor one which affords greater interest to the ornithologist, the sportsman, and the lover of nature,—to the ornithologist from the circumstance of its being peculiar to our islands, to the sportsman from the unrivalled enjoyment with which it furnishes him during the latter part of the summer and the early autumnal months, and to the lover of nature from its principal home being among the wildest mountain-districts of the northern parts of Britain, to which annually resort our princes, nobles, and legislators for the reinvigoration of their health after the fatigues of the Parliamentary session and the jading pleasures of the London season. As affording sport it is second to none; and its flesh is unequalled in flavour by that of any other member of its family. Its remarkable flight is viewed with pleasure, and its wild cry is enchanting to the ear of all who have an opportunity of treading the springy heather. “The crow of the Grouse,” says St. John, in his ‘Tour in Sutherland,’ “is as inseparable in my mind from the mountains of Scotland as the song of the Water-Ouzel is from its birch-covered glens or the spring-call of the Peewit from its marshy meadows.” Numerous as are the birds which frequent the British Islands, the Grouse is the only one we can truly call our own; for it never migrates nor ever oversteps its natural boundary; it is always at home, bringing forth its brood among charming beds of blossoming heather. Southward of Wales it is not found; but northward from this point it ranges over most of the counties of England and Scotland, the Orkneys, the Western Islands, and the sister kingdom of Ireland.

The vexed question of the identity of *Lagopus scoticus* with *L. albus* I shall not enter upon here. To sink the former specific term for the latter would, I know, be distasteful to most of my readers; and as it is a matter which still remains undecided, I shall give our bird the benefit of the doubt. *Lagopus albus* possesses many characteristics by which it differs from the Red Grouse: thus it exchanges its rich brown dress of summer for one of pure white in winter; but, unlike many other animals which alter in colour from the rigour of climate, the tail always remains black, and appears, indeed, of a deeper tint during that season. Those who consider the two birds identical believe that our humid climate and almost peculiar vegetation may have gradually effected a change in the coloration of our Grouse—a change which, during the lapse of ages, has become permanent. If this be the correct theory (and I must admit that I think it probable that it is), then the range of the species would be a vast one, extending more or less throughout the northern portions of both the Old and New World at about the same degree of latitude as in Europe. To test their unity, I paid a visit to Norway, to form my own opinion on the subject; and I must say I was much struck with the similarity of the two birds in their habits and economy, and in the crowing call of the male. On this head, Mr. Oscar Dickson, of Gothenburg, wrote, in ‘Land and Water’ for September 26th, 1868:—“Some leading Swedish naturalists maintain that there is no other difference between the Scotch and Norwegian Willow-grouse than what may be accounted for by the influence of climate. They say that the call and also the droppings are just the same, and that there is no dissimilarity in the skeletons of the two—that most Willow-grouse have white pens in the wings, but not all, which they can prove by specimens at the Stockholm museum. When I point to the different habits of the birds—such as the Scotch Grouse not being found near trees, and that they do not turn white in winter—they account for this by the influence of climate; and when I ask why the Willow-Grouse are not met with in the middle and south part of Sweden when they, in Scotland and England, are found in lower degrees than Copenhagen (which is about the same latitude as Edinburgh), they say that the Grouse prefer the colder parts, and therefore, also, they appear in greatest numbers in the north of Scotland.”

Some of our writers have affirmed that the Red Grouse never perch on trees; but this assertion must not be taken literally: the fact is they frequently do so, either for the sake of changing their food or to escape

from the awful snow-drifts which so frequently occur in their native districts. On this head, Sir John Crewe requested Turner, his head keeper, to supply him with all the information in his power; and the following is the note with which Sir John has favoured me:—"In reply to your letter respecting the Red Grouse perching on trees, I have noticed them to perch more frequently on the larch than any other kind of fir tree, they also frequently perch on the hawthorn. On one occasion during last November I was going round some corn-fields at Ferneyford; and in an old thorn that grows in the fence I saw a number of Grouse; I cannot exactly say how many, but I believe there could not have been less than five brace: they continued in the tree until I got within a few yards of them. The autumn is the time when they are more frequently seen to take to the trees."

Much has been written respecting the disease to which of late years the Grouse have been subject; but it would be out of place to recapitulate a tithe of what has been recorded on this head in the present work: those to whom this kind of information is of interest will find it in the 'Sporting Review,' 'The Field,' 'Land and Water,' and other periodicals of the like kind. The fearful visitation of cholera, the murrain among cattle, the ravages among the potato crop, and the Grouse-disease, all arise from causes at present unknown. The mystery may yet be solved; but, in the absence of such knowledge, the disorder among the Grouse may perhaps be attributable to overcrowding. The wholesale destruction of our predatory birds, particularly the Eagle and the Peregrine, which take advantage of the feeblest of the pack, instead of attacking the boldest and most vigorous, must have had its influence; and the well-being of the community will necessarily suffer from such a wholesome check being taken away. On this head, Mr. St. John writes, "Whatever is the cause of this mortality, it is a matter of some consequence to the proprietors of those districts where the Grouse-shootings let for as high or a higher rent than the sheep-pasturage; for it can scarcely be expected that Englishmen will continue paying at the rate they do for the right of shooting over tracts of ground where the grouse are becoming almost extinct, as is the case in several places. Instead of sparing the birds where they are attacked by this epidemic, I should be much more inclined to shoot down every Grouse in the infected part of the hills; and I would continue to do this as long as any appearance of the disease remained; I would then give them a year or two of rest, according to the numbers and appearance of the birds. This seems to me the most likely way to check the destruction caused by what the keepers call the 'Grouse-disease.' In some parts of the Highlands there were scarcely any young birds seen in August; and the old Grouse were picked up in dozens dead on the heather."—*Tour in Sutherland*, vol. i. p. 275.

"The great changes," says Mr. Robert Gray, in his 'Birds of the West of Scotland,' page 232, "that have taken place within the last thirty years in the management of moorland tracts, and the excessive rents now derived from such properties, have induced both landowners and lessees to clear the ground of all kinds of animals that would naturally prey upon those birds which are not strong enough to protect themselves; hence sickly broods of Grouse perpetuate other broods, that year by year degenerate until disease ensues, and in some instances almost depopulates an entire district. There can be no doubt that this unwarrantable destruction of Hawks and Buzzards affects adversely the condition of the birds with which our Scottish mountains are stocked—the number of wounded birds alone, which survive the unprecedented annual slaughter through which the Red Grouse is now obliged to pass, being an argument sufficient to show that such merciful agents are wanted to prevent the spread of enfeebled life. In almost every case where undue protection is given to certain animals by the rigorous destruction of others, man's interference is followed sooner or later by evils of a graver nature than those which the protective measures were intended to cure; and, until some more rational plan is tried for the restoration of the Red Grouse to its original vigour, no one can say what may be the final issue of the somewhat anomalous position in which, as a species, the latter bird is now unfortunately placed."

Considerable difference exists in the coloration of the Grouse in different parts of the British Islands: those of Ireland are very much lighter and more uniform in hue than those of Scotland; and the Welsh birds are somewhat similarly marked,—neither having the rich black breasts of those which frequent the Cheviots and the Grampians. Little difference occurs in the weight of birds of the same age and sex in one and in another of these localities. I have weighed many from each of them, and find the average in September to be about twenty-five ounces; many will weigh less, and a few as much as thirty-two ounces; but a two-pound Grouse must be considered a very large one, and it is not above one in a thousand that attains such a weight. The heaviest birds weighed for me by Mr. John Fowler, when he had the shooting at Glen Fernat, were respectively twenty-five, twenty-seven, and thirty one ounces; but he tells me he has seen three (two at Glen Fernat, and one at Brae More) that turned the scale of two pounds.

The eggs are from ten to fourteen in number, of a reddish ground-colour, nearly covered with blotches and spots of rich umber-brown.

The Plate represents the adult, and part of a brood of young, as they appear about the 20th of August.



LAGOPUS MUTIS.

LAGOPUS MUTUS.

Ptarmigan.

Tetrao Lagopus, Linn. Syst. Nat., tom. i. p. 274.

——— *mutus*, Montin, Act. Soc. Lund., tom. iii. p. 55.

——— *alpinus*, Nilss. Orn. Suec., tom. i. p. 311.

——— *montanus*, Brehm, Vög. Deutschl.

Lagopus vulgaris, Vieill.

——— *mutus*, Leach, Syst. Cat. of Spec. of Indig. Mamm. and Birds in Brit. Mus., p. 27.

——— *montanus*, Brehm, Handb. de Naturg. Vög. Deutsch., p. 516.

——— *alpina*, Nilss. Skand. Faun., pls. 8, 9 & 10.

——— *cinereus*, Macgill. Hist. of Brit. Birds, vol. i. p. 187.

IF we take a glance at the natural productions of the globe, we shall find that in general those of each hemisphere are very different, but that, in the department of ornithology, some are peculiar to one of them, while others are common to both. This feature becomes still more strikingly marked as we approach the poles, the Guillemots and Puffins of the Arctic and the Penguins of the Antarctic circles furnishing an apt illustration of the peculiar restriction of certain groups of birds to the northern and southern polar regions. Besides these, there are other great northern groups whose organization adapts them to peculiar localities, and the character of whose flesh renders them most useful to man, while, in a sporting sense, they stand out more prominently than any others; I mean, of course, the great family of Grouse, a family comprising so many distinct forms, that it ranks second to none in importance in the class AVES, and respecting which it will be unnecessary for me to say more than that, while the term *Tetraonidæ* is employed to designate the entire group, the various sections into which it appears to be naturally divided have each received a generic appellation, the old Linnæan name of *Tetrao* being retained for the Capercaillie, while that of *Lyrurus* has been assigned to the Black Cock, *Bonasia* to the Gelinotte, and *Lagopus* to the Ptarmigan.

With these brief remarks on the family to which it pertains, we will now proceed with the history of the *Ptarmigan* of the Gael, the bird which fosters the pride of the highlander; for he knows that it is only among his native mountains that it is now to be found in Britain, whatever it may have been in days gone by. It is said to have formerly inhabited Wales and Cumberland; but it is now confined to Scotland and the small adjacent islands; its most southern limit is the Grampians: here, among other elevated spots, it lives on Loch-na-gar and Ben-na-muic-dui; on the west it frequents many parts of Ross-shire, on the north Sutherlandshire, and several of the western islands; but, according to Thompson, it has never inhabited Ireland. Supposing, then, that the Grampians is the nearest locality to England where the bird may be seen in a state of nature, engineering science annihilating space, distant parts are brought into closer proximity; how much more do we accomplish now than we did at the commencement of the present century! A few hours' travelling will take any one from the metropolis to the foot of those hills. In summer no journey could be more easy, pleasant, or exhilarating; nature will then be found in her gayest garb, and the bird in its finest dress, and surrounded by everything that is pleasing. The part of the mountain which a few months ago was covered with snow is now the breeding-place of the Dotterel; and the heather and other plants, which the Ptarmigan had to burrow for, are radiant with blossoms. The bird at this season is invested with colours in unison with the surrounding objects—the female rayed with bars of rich tawny and brown, and the fiery combs of the male more largely developed and of a still richer hue, while much of his mantle is black. These rich liveries, which are only carried in their perfection for a very short time, are exchanged, as autumn approaches, for a totally different dress of mottled grey, a costume which is common both to the adults and the young of the year. Now is the time the sportsman visits these alpine regions, and the Ptarmigan must pay black mail for the protection afforded to it during the summer. Now “packs” must be on the alert, or their numbers will be much thinned; for the sportsman will not climb the rugged hills without “making a bag.” As winter approaches, the bird gradually assumes its white garb; and as the sportsman has returned to the south, no further molestation need it fear until the next shooting-season.

It will now be necessary to consider a point in the history of the Ptarmigan on which there is much diversity of opinion. It is whether our bird enjoys the very extended range over northern countries which some are inclined to assign to it—whether the Ptarmigans of England, Germany, Norway, Lapland, Switzerland, Iceland, Behring's Straits, and Greenland are one and the same species. It appears to me that there is a oneness in the whole of these birds, and that the differences they present are not greater than may be due to variation of locality. I have arrived at such a conclusion after a minute and careful comparison of

numerous specimens from all the above-mentioned countries; still I do not fail to notice that certain constant differences exist in the plumage of the Iceland, Greenland, and American birds; but I am not called upon to comment upon them here, since I am not writing a history of the family, but only of that one of its members to which the synonyms above given pertain.

A certain degree of altitude appears to be necessary to the existence of this species; yet it is remarkable that it never departs from the law which limits the Grouse family to certain high degrees of latitude. Why it should not be found on the snow-capped Himalayas, the Mountains of the Moon, or the regions of the Andes is not for me to explain.

"I have frequently chased it," says Macgillivray, "on Ronaval and other mountains in Harris; and it is said to occur on Eachala in South Uist, on the Park and Uig hills in Lewis, on the Cuillin and Strath mountains in Syke, as well as in Mull and Jura. On all the elevated summits of the north of Scotland it is not uncommon; and on most of those of the Grampians, but especially the great granitic and slaty masses from which issue the sources of the Dee, the Spey, and the Tay, it may be said to be even abundant. Great numbers are annually killed; but as its haunts are not so easily accessible as those of the Red Grouse, it is not at all likely to be exterminated.

"While feeding, these beautiful birds run and walk among the weather-beaten and lichen-crustured fragments of rock, from which it is very difficult to distinguish them when they remain motionless, as they invariably do should a person be in sight. Indeed, unless you are directed to a particular spot by their strange low croaking cry, which seems to me very much like that of a frog, you may pass through a flock of Ptarmigans without observing a single individual, although some of them may not be ten yards distant; when squatted, however, they utter no sound, their object being to conceal themselves; and if you do discover the one from which the cry has proceeded, you generally find him on the top of a stone, ready to spring off the moment you show an indication of hostility. If you throw a stone at him, he rises, utters his call, and is immediately joined by all the individuals around, which you see spring up one by one from the bare ground. They generally fly off in a loose body, with a direct and moderately rapid flight, and settle on a distant part of the mountain, or betake themselves to one of the neighbouring summits, perhaps more than a mile distant.

"It is delightful to wander far away from the haunts and even the solitary huts of men, and, ascending the steep mountain, seat one's self on the ruinous cairn that crowns its summit, where, amid the grey stones, the Ptarmigan gleans its alpine food. There, communing with his own heart in the wilderness, the lover of nature cannot fail to look up to nature's God. I believe it, in fact, impossible in such a situation, on the height of Ben-na-muic-dui or Ben Nevis, for example, not to be sensible, not merely of the existence, but also of the presence of a Divinity. In that sacred temple, of which the everlasting hills are the pillars, and the blue vault of heaven the dome, he must be a fiend indeed who could harbour an unholy thought. But to know himself one must go there alone. Accompanied by his fellows, he may see all of external nature that he could see in solitude, but the hidden things of his own heart will not be brought to light. To me the ascent of a lofty mountain has always induced a frame of mind similar to that inspired by entering a temple; and I cannot but look upon it as a gross profanation to enact amidst the sublimities of creation a convivial scene, such as is usually got up by parties from our large towns, who seem to have no higher aim in climbing to the top of Ben Lomond or Ben Ledi than to feast there upon cold chicken and 'mountain dew,' and toss as many stones as they can find over the precipices.

"Early in spring the Ptarmigans separate and pair. The nest is a slight hollow, scantily strewn with a few twigs and stalks or blades of grass. The eggs are of a regular oval form, about an inch and seven twelfths in length, an inch and from one to two twelfths across, of a white, yellowish-white, or reddish colour, blotched and spotted with dark brown, the markings larger than those of the Red Grouse. The young run about immediately after leaving the shell, and from the commencement are so nimble and expert at concealing themselves that a person who has accidentally fallen in with a flock very seldom succeeds in capturing one. On the summit of one of the Harris mountains I once happened to stroll into the midst of a covey of very young Ptarmigans, which instantly scattered, and in a few seconds disappeared among the stones, while the mother ran about within a few yards of me, manifesting the most intense anxiety, and pretending to be unable to fly. She succeeded so well in drawing my attention to herself that when I at length began to search for the young, not one of them could be found, although the place was so bare that one might have supposed it impossible for them to escape detection. It seems wonderful, after all, how a young bird, such as a Lapwing or Snipe, sitting motionless on the ground (which it always does, unless it thinks it has been observed), should generally elude the most diligent search."

The singular changes to which this bird is subject, and the little that is understood respecting the dress it bears at different seasons, have induced me to give three illustrations of the bird—in winter, summer, and autumn; and I am sure it will be admitted that, with less, the subject could not be rendered intelligible. Mr. Wolf has taken the utmost pains with these figures, and accompanied each with appropriate scenery. It will be seen, then, that the birds change their dress almost as frequently as the aspects of nature on the



J. Wolf and H. Richter, del. et lith.

LAGOPUS MUTUS.
Summer plumage.

Walter & Cobb, Imp.



LAGOPUS MUTUS.

W. and W. F. J. J. del of 17th

Wieder. (Lohnen)

hills where they dwell. The change is mainly effected by a moult of the feathers, and not by the colour being absorbed or thrown out, as is the case to a certain extent with the Sandpipers; but on this subject, one of especial interest, Mr. Wheelwright, who has seen so much of the bird in its native haunts in Lapland, shall have his say. I will only premise that the mutations which take place in the birds of that country equally occur in those of our own.

“The change from the winter to the summer dress is a true moult, and not a change of colour. It is difficult to say what is the real summer dress of the Ptarmigan; for they appear to be in a continual state of change during the whole of that season, and to bear no one dress for any length of time; so irregular is the change that you scarcely ever see two exactly alike: on the same day in the end of July, you may kill some in the early summer dress, and others with many blue autumn feathers. Up to the 9th of July all the old males killed were brownish black on the back, speckled with lighter brown, especially on the head, breast, and sides, the darkness of the breast being much more conspicuous in some than in others; belly pure white. By the 20th the entire body had become much lighter; and by the end of the month was changing to blue-grey, but still speckled with brown, especially on the head. By the 6th of August the males had assumed a totally different dress; head still speckled with yellowish brown; back bluish grey, watered with black and white; belly pure white. This blue-watered dress becomes of a fainter grey-blue until the end of September; but the white winter feathers gradually show themselves.

“Much as the males vary in plumage, the females vary still more, and merely retain a standing dress for about three weeks in June, just when they are laying; the body is then blackish brown, every feather broadly edged with yellow, brown, and white, giving the bird a very light yellow-brown appearance; breast much lighter; belly *never* pure white as in the male, but, as well as the sides and breast, covered with black zigzag lines on a rusty yellow and white ground. By the second week in June this dress is complete, but varies so much in tint that scarcely any two birds are alike; all at once they become much darker, and by the beginning of July the female has assumed a totally different and darker costume. About the end of the month she is far more handsome than the male, her dress being brown-red variegated with blue-grey, which often on the back appears in patches. But the females vary so much in colour that a minute description of one would not apply to another. I fancy both sexes retain this blue dress longer than any other. It gradually becomes lighter as the season advances, till at length the old female is quite blue, but always with some rusty mottled yellow feathers on the sides; and about the middle of October the blue dress gives place to the pure white of winter.

“The plumage of the young in the downy state is rusty yellow, with longitudinal markings and minute spots of black; the first dress after that is black mottled with rusty yellow and white above, underneath pale rusty brown with blackish wavy lines; wings greyish brown. Early in August the body-plumage becomes greyish blue, finely streaked with black, and the pinions white instead of brown; this grey plumage gradually becomes lighter, as in the old birds, till, like them, they assume their winter livery, and by the 1st of November there is no perceptible difference between old and young birds.

“It appears, therefore, that the Swedish Ptarmigan has three distinct dresses in the course of the year, and so many intermediate changes that they appear to have a different dress for every summer month.

“The Ptarmigan may truly be said to be a child of the snow; for its real home is the higher fell tract, and in the middle of summer on their very highest snow-clad summits. In the spring they come down to the lower fells to breed, but you never find them there in the end of summer. The pairing-season appears to begin early in May, and to last a fortnight or three weeks. During this time the hoarse laughing love-call of the old male may be heard at the earliest dawn on any of the fell-tops. This is soon answered by the finer ‘i-i-ack, i-i-ack’ of the female, and the love-chase commences.

“Both the Ptarmigan and the Willow-grouse are strictly monogamous. Some naturalists appear to have an idea that both, when pairing, have a kind of “lek” or play, like the Capercaillie and Blackcock, both of which are polygamous; I can only say, I never saw anything of the kind. The Ptarmigans certainly have their favourite pairing-grounds on the fells, and here the birds assemble at daylight in the early spring, in small but widely scattered flocks. The old males utter their peculiar love-call, which is answered by the female, and they draw together; but, although there are several males in the neighbourhood, each one seems to have his own particular stand and his own favourite female, and if by chance another male intrudes on his ground, he drives it off.”

The first Plate represents the Ptarmigan in its full winter dress; the second, both sexes with their brood as they appear at midsummer, or about a week later (the figure of the male being taken from an individual I obtained on the Dovrefjeld, which is darker than is generally the case with Scotch examples); the third, the autumn dress—the state in which the bird is seen in August, September, and October. All the figures are of the natural size.



SYRRHAPTES PARADOXUS.

Illustrated by J. Gould and W. C. Briston del et lith.

Water & Color Imp.

SYRRHAPTES PARADOXUS.

Pallas's Sandgrouse.

Tetrao paradoxa, Pall. Itin., tom. ii. p. 712, tab. F. ; Id. Zool. Ross.-Asiat., tom. ii. p. 74.

—— *paradoxus*, Lath. Ind. Orn., vol. ii. p. 643.

Syrrhaptes paradoxus, Ill. Prod. Syst. Mamm. et Av., p. 243.

—— *Pallasii*, Temm. Hist. Nat. des Pige. et Gall., tom. iii. pp. 282 et 716.

Heteroclitus Tataricus, Vieill.

Syrrhaptes heteroclitus, Vieill. Gal. des Ois., tom. ii. p. 64, pl. 222.

THAT an Asiatic bird, of whose history we have hitherto known but little, and which, until very recently, was the sole representative of its genus, should have suddenly made its appearance in many parts of the European continent, and in almost every district of the British Islands, is so remarkable that the occurrence may almost be regarded as a phenomenon. This unwonted exodus of a species from its native country is one of the most strange events that has happened within the memory of naturalists ; and no similar instance, so far as I am aware, is on record.

With the law of migration we are now tolerably well acquainted ; for we have determined with accuracy the coming and going of many of the birds which roam over our planet, and we know that this movement is an impulse regulated by the sun, the great luminary which influences creation in all her varied forms. Migration, then, is one of nature's laws, and indisputably apparent to our senses. But we can no more account for the irruption of this interesting bird into Western Europe than we can for the appearance of the American Weed (*Anacharis Canadensis*), now so widely spread over the rivers and water-courses of our island. Other instances of Asiatic birds visiting this country have, it is true, occurred ; but these visits have been few and far between, and generally consisted of solitary wanderers. Pallas's Sandgrouse, on the other hand, has arrived in numbers at a time, and for several years in succession. Since its first appearance in 1859, it has been steadily arriving, either in pairs, little companies of from eight to ten in number, or in packs of from fifty to a hundred. In a letter from Mr. Rodd of Penzance, dated June 15, 1863, he states that he had just received a Sandgrouse which had been shot in the neighbourhood ; and on the 27th of the same month, he informs me that a specimen was picked up dead on the Scilly Islands. In the 'John o' Groat's Journal' for the 11th of July is a notice of one having been shot in Caithness, out of a flock of eight. I mention the occurrence of the bird at these extreme points of the country to show that the immigration was by no means a contracted one. I might fill pages with a record of its occurrence in the intermediate districts ; Mr. Stevenson, in a paper published by him in the 'Zoologist,' mentions that no less than sixty-three examples have been killed in the counties of Norfolk and Suffolk, between the 23rd of May and the 9th of June 1863 ; and many others have been killed on each side of those counties, from Romney Marsh on the south to Scarborough and Hartlepool on the north-east. It has also been seen in Wales, in the north-west of Ireland, and on the Walney Island, off the Lancashire coast. On the Continent it has occurred in all the northern parts, from Holland to Norway ; but nowhere in greater abundance than in that house-of-call for strange birds, the Island of Heligoland, where M. Gätke, with his wonted perseverance, obtained many specimens. He states, in a letter in the 'Field' of July 25, 1863 :—

“This very beautiful and interesting stranger was observed and shot here first on the 21st May, the weather being very fine, with a moderate easterly breeze. All successive days up to the earlier part of June this bird was seen here in flocks varying from about three, five, fifteen, to fifty, and in one or two instances even to a hundred. Out of these, near thirty have been shot—the earlier birds being, with two exceptions, all very fine male specimens, the latter, nearly all female birds—every one of them in the most perfect plumage.

“After the lapse of a fortnight, viz. on the 22nd June, again six Sandgrouse made their appearance, out of which five were shot : these, without exception, were all females, whose plumage had no longer the same fresh and tidy appearance as in the earlier instances ; so that all through this abnormal and mysterious excursion, they still adhered to the rules observed by birds in their migrations, that is, the males formed the van, the finest old specimens coming first, after which the females make their appearance, the rear being invariably brought up by weak, badly developed, or injured individuals, of a shabby appearance.”

Mr. Alfred Newton informs me that the bird is actually breeding on the Danish Islands, and that six or seven sets of eggs have already been found there. This circumstance tends greatly to increase the interest attached to this new comer ; for it is evident that its sudden occurrence in Western Europe has been no

passing visit, but that the bird intended to take up its residence here and become one of our avifauna. What reception did this stranger from a distant land receive? No sooner did it arrive worn out with fatigue, than numerous guns were levelled for its destruction; the little flights were hunted to and fro until nearly the whole were killed, and the remnant driven we know not whither. What efforts have the Acclimatization Society made to avert this? At what cross purposes are we playing, when we are endeavouring to introduce creatures from the antipodes without the most remote chance of success, while we neglect and defeat the spontaneous offer of so interesting a bird as the Sandgrouse! Let those wealthy proprietors who have sanctioned this new Society, and given it their support, render as much protection to our new friend as will at least give it the chance of establishing itself among us. That our seasons would not be too rigorous for it is certain; for Mr. Swinhoe states that the bird winters on the plains between Peking and Tientsin, and that hundreds are captured after a fall of snow, the markets of Tientsin, where it is called Shá-chee, or Sand-fowl, being fairly glutted with them. Huc, in his 'Travels in Tartary,' when speaking of this bird, says:—"This singular creature is called by the Chinese *Loung-Kio*, that is, Dragon's Foot. They generally arrive in great flocks from the north, especially when much snow has fallen, flying with astonishing rapidity, so that the movement of their wings produces a noise like a shower of hail."

The question will very naturally arise, Is our island otherwise adapted to this bird? In some respects it is not; but there are certain barren tracts and sandy districts near the sea which would afford it a congenial home, where it might breed, and whence, like the Dove-cote Pigeon, it might make raids on the corn-fields, when a desire for a change of diet prompted it so to do, and by which means its flesh, as an article of diet, might be greatly improved; at present I fear it would not be much esteemed.

A species of such vast powers of flight, as we know this Sandgrouse to be possessed of, is no bird for the aviary, and we may well be surprised that any of the members of the valuable present of many living examples, by the Hon. James F. Stuart Wortley, to the Zoological Society should still be living. It is not a little amusing to hear the remarks of some of the visitors respecting these birds. Like the person who assured me he had seen a Humming-Bird in England, they think they have met with an old friend from India or Egypt. Let me assure all such persons, that neither Pallas's Sandgrouse nor the only other known species of the genus, the *Syrrhaptes Tibetanus*, is ever seen south of the great watershed which separates India and Persia from Tartary, and that the birds they have seen are the various species of the genus *Pterocles*, whose feet are differently formed, and whose wings are not so lengthened. The Indian and Egyptian birds, it is true, bear a general resemblance to each other; but they are quite distinct. The home, then, of the birds which have paid our shores a visit is in the Altaï and the Kirghis Steppes of Tartary, the country around Lake Baikal, and some parts of China. Here, on plains of grass and sandy deserts, at one season covered with snow and at another sun-burnt and parched up by drought, the Sandgrouse finds a congenial home; in these inhospitable and little-known regions it breeds, and, when necessity compels it so to do, wings its way, like the Bronze-winged Pigeon of the hot plains of Australia, over incredible distances to obtain water or food. Its diminutive bill, small head, and little feet, when compared with its lengthened wings and the very powerful pectoral muscles, clearly indicate that space is as nothing to it, and that a journey to Europe, when once willed, is easily accomplished.

The walk of the *Syrrhaptes* is as slow and feeble as its flight is rapid and powerful; it toddles over the ground with a laboured and uncertain step, like a Chinese lady in her boudoir.

The two sexes, as will be seen by the accompanying Plate, differ considerably in colour. The eggs are said to be four in number, but this is doubtful, since Mr. Newton informs me that three is the normal number laid by the members of the genus *Pterocles*, and that three was the number always found in the instances of their deposit on the Danish Islands above alluded to.

The Plate represents a male, a female, and three eggs, all of the size of nature.



Ptilinopus colchicus Linn.

PHASIANUS COLCHICUS, *Linn.*

Common Pheasant.

Phasianus colchicus, Linn. Syst. Nat., tom. i. p. 271.

IN accordance with the expressed wishes of a great number of the subscribers to the present work, I here give a figure and description of the Common Pheasant. For my own part I consider it as much out of place in the 'Birds of Great Britain' as it would be to include therein similar delineations of the Peacock, the Turkey, and several other birds which have at various periods been introduced, and, favoured with fostering care, have lived and thriven among us; my opinion, however, has been met with the argument that, from the great number of years which have elapsed since its introduction, and the fact that it has become partially wild in our woods, it should form an exception. The true habitat of the Common Pheasant is doubtless Asia Minor and the western portion of Asia, whence in all probability the first living examples were brought to our islands; but even this is doubtful, since the bird has for many ages been known to be an inhabitant of Turkey, Bulgaria, and other parts of eastern Europe, and it is just as probable that our birds came thence.

Daniell, in his 'Rural Sports,' says Pheasants were brought into Europe by the Argonauts 1250 years before the Christian era, and are at present found in a state of nature in nearly the whole of the Old Continent.

"It may surprise the sportsman to read that this bird, which he finds wild in forests which can scarcely be said to have an owner, was brought from the banks of the Phasis, a river in Colchis, in Asia Minor, and artificially propagated with us and in other parts of the globe. History assigns to Jason the honour of having brought this bird, on his celebrated expedition, from the banks of the Phasis; and hence the modifications of the word, viz. Phasianus in Latin, Pheasant in our own language, Faisan in French, and Fagiano in Italian. The ancient Colchis, from which the specific name is derived, is the Mingrelia of the present day; and there, it is said, this splendid bird is still to be found wild and unequalled in beauty. The price Pheasants bore, according to Echard's 'History of England,' A. D. 1299 (being the 27th of the reign of Edward the First), was fourpence. At the same period the value of a Mallard was three halfpence, a Plover one penny, and a couple of Woodcocks three halfpence."—YARRELL'S *British Birds*, vol. ii. p. 278.

In those good old times the Pheasants which roamed about the woods and coppices of the British Islands were pure in blood, and adorned with all the pristine colours and markings of a true species; now, however, owing to the introduction of other kinds, and the crossings that have taken place, our country is tenanted by a set of mongrels, each individual, or at least by far the greatest portion of our stock, exhibiting an indefinite kind of coloration, so that scientifically there really is no interest in this bird as regards Britain; and in a utilitarian point of view, much harm has, in my opinion, accrued by the introduction of foreign blood into the veins of our own old stock,—not that I for a moment deprecate the infusion of new blood when it can be obtained from a distance and from individuals of the same species; for every breeder and physiologist is aware that the result would be a beneficial one. The introduction, however, of the Chinese *Phasianus torquatus* and the Japanese *P. versicolor* has plainly shown this in a certain way only. The first hybrids from either of these two birds with our own true *P. colchicus* are often wonderfully fine birds, generally, if not always, much larger in size, of far greater weight, and adorned with a plumage the colouring of which is often more beautiful than that of either of their parents. Nature, however, does not favour such liberties; for, interesting as they may seem in the eyes of an ordinary observer, the inutility of such unnatural proceedings is at once rendered manifest by the infertility, or partial infertility, of these larger and variously coloured individuals. No other result could in fact be expected, since every thinking person must at once perceive they are nothing more or less than true mules—or if not mules, that they would seldom or never breed *inter se*; and they are in fact shy of breeding with either of the parent species to which they are most nearly allied. Now these results having been certified by hundreds of experiments, it must be evident to our landed proprietors, sportsmen, and keepers that no beneficial effect has been brought about by mixing two or three species of Pheasant in the same covert, or even the crosses from any two of them. In making this somewhat sweeping statement I must, however, add that from what I have myself personally seen, and the information that has reached me on the subject, I do not positively affirm that hybrids are in all instances non-prolific, but that much uncertainty prevails on the matter. Some clutches of eggs may turn out pretty well, others be half addled; and the young that burst the shell often grow up a rickety and weakly stock.

In my work on the birds of Asia will be found a full account of the two birds mentioned as having been recently introduced into the British Islands, namely *P. versicolor* from Japan, and *P. torquatus* from Southern China, together with several other species of this beautiful group of birds, respecting which it is only necessary to mention here that they nearly all inhabit the northern part of that great land-section of the globe called Asia, and that none of them are found in India.

Of all the true Pheasants the *P. colchicus* in a pure state is the darkest in colour, and may be always recognized by the deep chestnut hue of its rump, a dark green stripe over each eye, and the uniform redness of its flank-feathers; the Chinese *P. torquatus* is conspicuous for the light silvery green mark over each eye, the glaucous green of its rump, and the light buff colouring of its flank-feathers; while the Japanese bird, with its splendid green breast and sides, differs materially from both. The birds usually shot in our woods exhibit an intermixture of all these tints and markings, no two being precisely alike.

As an evidence that the same colours in cross-bred birds cannot be perpetuated I append two notes which I find among my MSS. bearing upon this point.

“Burdett, the clever keeper of the Earl of Craven, informs me that a Pheasant which had a narrow ring round its neck the first year had a very broad one during the second, and that in the third it had totally disappeared. ‘I am positive of this,’ he says, ‘as it was never taken out of the pen in which it was kept.’”

“Mr. J. H. Gurney bred some extremely beautiful first-cross birds between a Green Pheasant, obtained at the Earl of Derby’s sale, and the species common in his woods at North Repps, in Norfolk; and although they appeared to be extremely healthy, and some of them exceeding four pounds in weight, the race could not be perpetuated, Mr. Gurney assuring me that after an interval of a few years there was no strain of the green bird left.”

On this head too, Mr. Stevenson, in his ‘Birds of Norfolk,’ has the following passage:—“From personal observation and inquiry, however, during the last two or three years, it appears that evidences of this cross, even in the coverts where these hybrids were most plentiful, are now scarcely perceptible, the strong characteristics of the Chinese bird apparently absorbing all the less-marked, though darker, tints of the Japanese. One of these birds, killed in 1853, weighed upwards of four and a half pounds; and many examples which were stuffed for the beauty of their plumage will be found in the collections of our county gentlemen.”

The accompanying illustration represents an old and true *Phasianus colchicus*, which has met with a fate to which hundreds of its brethren are annually subjected.



PERDIX CINEREA, Linn.

Illustr. & H. Richter, del. et lith.

Walter, imp.

PERDIX CINEREA, *Linn.*

Partridge.

Tetrao perdix, Linn. Faun. Suec., p. 74.

Perdix cinerea, Lath. Ind. Orn., vol. ii. p. 645.

——— *vulgaris*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 27.

——— *cineracea*, Brehm, Vög. Deutschl., p. 525.

Starna cinerea, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 43.

THE genus *Perdix*, as now restricted, comprises but three species—our own well-known bird (*P. cinerea*), the one inhabiting the Thibet side of the Himalayas, named in honour of Mrs. Hodgson *P. Hodgsoniæ*, and a third, from Northern China (*P. barbatus*). Each of these very distinct species enjoys a wide but different geographical range over the Old World; neither of them, however, frequent the boreal regions of the north nor the torrid ones of the south; consequently Africa, India, and Southern China are not tenanted by any member of this genus. The area over which our own Partridge extends may be expressed in a single word—Europe, out of which it rarely occurs. In England it is very generally dispersed; in Scotland it is abundant in the southern districts, but is rarely met with in the northern, and never, I believe, in the Hebrides; in Ireland it is dispersed over the cultivated grounds and their vicinity, but has never been so numerous as with us. Besides specimens from very many parts of the British Islands, my collection contains examples from Sweden, Russia, and Greece, all of which exhibit a close resemblance to each other in the colouring and markings of their plumage.

The British Partridges differ considerably in size and weight—a circumstance mainly attributable to the more or less nutritive character of the food upon which they have been reared; the grass-land birds are smaller than those from chalky districts, and those from rich alluvial and grain-bearing soils the largest and heaviest. The late Earl of Craven, when shooting on the chalk downs of Ashdown, in Berkshire, was so good as to weigh a thousand expressly for my information, and found the heaviest to weigh fifteen ounces, while the average weight of the whole was thirteen and a half. The examples which have from time to time been kindly sent to me by L. H. Cumberbatch, Esq., from the centre of the New Forest in Hampshire, where they could never have seen corn-stubble, were round, compact, little birds, rather dark in colour; of these the weight of the heaviest, fully adult males, varied from twelve and a half to thirteen ounces. A Partridge exceeding a pound in weight is rarely met with; in the whole course of my shooting I never killed but one; this was at Preston Hall, in Kent; but Mr. W. A. Tyssen Amhurst sent me a Partridge which had been killed at Hunmanby, in Yorkshire, that weighed half an ounce over a pound; and Mr. Elwes favoured me with six heavy birds from Norfolk, one of which weighed the same.

To enter into any details respecting the nesting of a bird so common and so well known would seem superfluous; but I may mention that some individuals lay earlier than others, and that I possess notes, among my MSS., of coveys having been seen as early as the 7th of May, while from the 18th to the 25th of June is the date at which the chicks usually burst the shell.

The Duke of Wellington's Norfolk keeper, who was with me on the 14th of May, 1862, stated that he had on the morning of that day a Partridge sitting, which he expected would hatch her eggs before night. But, more remarkable still, Mr. Dilwyn, three days previously, showed me a note from his keeper in Wales, in which he informed him that he had seen one covey of Partridges; these, therefore, must have been hatched a week before, or about the 7th of May. The season certainly was a remarkable one, much warm weather alternating with cold and wet.

Generally the nest is either placed in the open field or on the sunny side of a bank or hedge-row; but at this season the Partridge, like the Wood-Pigeon, throws off its usual shyness, and sometimes confidently nests in a cottager's garden or on a bank near it by the roadside, where hundreds of persons must pass and repass during the period of incubation. Instances have been known of the deposition of twelve or fourteen eggs in the flat head of a pollard tree, several feet from the ground, and in other equally unlikely situations; perhaps one of the most remarkable is described in the following note by the Rev. John Hill, which has been kindly transmitted to me by his brother and my estimable friend Viscount Hill:—"In Weston churchyard, close to the lodge of Hawkstone Park" (his Lordship's seat in Shropshire), "a Partridge has made her nest, containing thirteen eggs, in some long grass against the side of a flat tombstone raised only two or three inches from the ground. A new grave has been

made at the distance of about three yards; and she remained on her nest during the time the work was going on, and is still sitting, though at the funeral there were many persons standing round the grave and several on the flat tombstone.—June 21, 1870.”

To say that with us the Partridge is migratory would be incorrect; but it appears to be certain that it does occasionally change its *locale*, so as to almost desert an estate on which it has been plentiful, and take up its quarters on an adjoining one. I believe, however, that they merely sojourn there for a time, and return to the district in which they were bred. The reverse, however, is the case on the Continent. There, when the rigour of winter covers the face of the northern and central parts of Germany with deep snow for three months at a time, the Partridges of those districts cannot exist. Burrowing beneath the snow is, I am aware, occasionally resorted to; but the temperature, when it falls below zero, speedily urges the birds to remove further south, where grasses and other plants may still be found. While travelling over the northern part of Europe in winter, I have seen numbers of coveys huddled together for the sake of warmth.

Partridges occasionally occur clothed in a very singular chestnut-coloured livery. By some persons these are regarded as a distinct species, by others as a cross between a Partridge and a Grouse or the Common Partridge and the Red-leg: for myself I am confident that they are not due to either cause; at the same time I must admit that I am unable to throw any light on the subject of these abnormally coloured birds; in size they do not differ from the common species; and usually both sexes have the horseshoe mark on the breast; but in many of the females from the chalk-districts it is white instead of chestnut-coloured; sometimes the females of a whole covey are so distinguished.

There is, perhaps, no one of our game birds that gives more pleasure to the sportsman than the Partridge does, and is still likely to do—the Grouse, which principally inhabit the northern portion of the British Islands, annually becoming more scarce, and the Partridge encroaching upon the lands from which the Grouse have been driven by the process of clearing and cultivation; what is loss to the one, therefore, is gain to the other. Those whom circumstances do not permit to visit the heather-clothed hills of Scotland, Wales, or Ireland on the 12th of August take up their guns on the 1st of September and traverse the parched lowlands, where numerous great “bags” are from time to time made on the estates of rich landed proprietors; but as an enumeration of the many instances on record would merely serve to amuse those who are fond of sport, and not answer any scientific purpose, I omit them, contenting myself with mentioning that fifty, and even a hundred, brace are said to have fallen to the gun of a good shot in a single day; and where “driving” is resorted to, as it frequently is in most of our midland counties, five or six hundred birds are often counted at the end of a day’s sport.

“The Partridge,” says the Rev. C. A. Johns, “though decorated with no brilliant colours, which would tend to thwart it in its habit of concealing itself among vegetation of the same general hue as itself, is a beautiful bird. Its gait is graceful, its feet small and light, its head well raised, and its plumage, though devoid of striking contrasts, is exquisitely pencilled, each feather on the back and breast being veined like the gauzy wings of a fly. The most conspicuous part of the plumage of the male bird, the horseshoe on its breast, is invisible, as it walks or crouches; and the general tone is that of the soil. The nest is merely a depression in the ground into which a few straws or dead leaves have been drawn. When the hen is sitting, the male bird remains in the neighbourhood, and gives timely warning of the approach of danger; when the eggs are hatched he accompanies his mate, and shares in the work of teaching the young to shift for themselves. The food of both old and young is to a great extent insects; the young are especially fond of ants and their larvæ. The number of eggs varies from ten to fifteen or more. The character of the Partridge’s flight is familiar to most people. Simultaneously with the startled cry of alarm from the cock comes a loud *whir-r-r*, as of a spinning-wheel; away fly the whole party in a body, keeping a horizontal, nearly straight line. In turns each bird ceases to beat its wings, and sails on for a few yards with extended pinions, then plies its wings again, and, if it has so long escaped the fowler, may consider itself out of danger; for its flight, though laboured, is tolerably rapid.

“The call of the Partridge is mostly uttered in the evening, as soon as the beetles begin to buzz. The birds are now proceeding to roost, which they always do in the open field, the covey forming a circle with their heads outwards, to be on the watch against their enemies, of whom they have many. They feed for the most part in the middle of the day, and vary in size according to the abundance of their favourite food.”

The plate represents the two sexes, of the natural size. The plant is the Bladder Catch-fly or Campion (*Silene inflata*).



CACCABIS RUBRA.

J. Wolf & H.C. Richter del. et lith.

Walter: imp.

CACCABIS RUBRA.

Red-legged Partridge.

Tetrao rufus, Linn. Syst. Nat., tom. i. p. 276.

Perdix rufa, Lath. Ind. Orn., vol. ii. p. 647, β .

——— *rubra*, Briss. Orn., tom. i. p. 236.

Caccabis rufa, G. R. Gray, Gen. of Birds, vol. iii. p. 508, *Caccabis*, sp. 1.

It has always appeared to me questionable whether such birds as the Red-legged Partridge and the Pheasant should be regarded as pertaining to the avifauna of our islands more than the Guinea-fowl or the Turkey. The only reason that can be assigned for giving them a place therein is the circumstance of their now being found in a semi-wild state, whereas the Turkey and the Guinea-fowl can only be considered as additions to our domestic poultry; and hence it is that British ornithologists have, by common consent, included the former in their enumerations of our birds, and excluded the latter. I consider that the Red-legged Partridge affords the acclimatizer the best evidence that a bird may become naturalized in a foreign country. The Pheasant, without protection and a constant supply of artificial food, would probably die out in thirty years; but I believe the Red-leg would thrive and multiply to almost any extent in certain parts of our island; this, however, is not saying much, since a narrow strait only separates us from France, where the bird is strictly indigenous.

I have often had occasion to comment in the present work upon the splitting up of natural groups of birds into minute genera—to agree with the propriety of the measure in some instances, and to condemn it in others. The separation of the present bird and its allies from the other members of the *Perdiciæ* is to be commended; for although many ornithologists consider the Red-legged and the common Partridge too closely allied to admit of their being so treated, it will be found on a comparison of the two birds that they differ very considerably, both in structure and in the colouring of their plumage; and I therefore think Dr. Kaup was fully justified in separating them and in establishing the genus *Caccabis* for the reception of the former. The Red-legged Partridges are some of the most beautifully coloured members of the *Gallinaceæ*; the sexes are alike in colour; and the males are armed with powerful blunt spurs on their tarsi. The species (which are about seven in number) all inhabit the dry sterile sandy districts of the countries in which they are respectively found, while the true Partridges, for which the generic term of *Perdix* is retained, comprise only our own well-known *P. cinerea*, the *P. Hodgsoniæ* of Thibet, and the *P. barbata* of Central Dauria. Of these birds the sexes differ considerably in colour, and the males are destitute of spurs. They dwell in the more humid and thickly clothed districts of their native countries.

Of the European species of the genus *Caccabis*, viz. *C. rubra*, *C. petrosa*, and *C. saxatilis*, the one here represented is the commonest. All three are very circumscribed in the extent of their respective habitats, and one rarely encroaches on the domain of the other. The grey partridge, on the other hand, ranges over nearly the whole of Europe, from Constantinople to Britain, from Norway to Spain. Since the introduction of the Red-legged Partridge into England, towards the end of the last century, some valuable papers have been written respecting it—its objectionable qualities, its interfering with the happiness of and displacing our indigenous bird, the inferiority of its flesh for the table, &c.; and I might have my say on these points, having had many opportunities of observing the bird while enjoying the pleasure of shooting in the preserves of several friends in Suffolk and Norfolk; but I could not communicate anything more to the purpose than has been furnished by Dr. W. B. Clarke, in the ‘Magazine of Natural History’ for 1839, or than is contained in the carefully written account by Mr. Stevenson in his recently published ‘Birds of Norfolk’—a publication I strongly recommend to the notice of all who take an interest in the local faunas of our islands, and from which I shall transcribe some of the more important passages, with due acknowledgment; for it would be unfair to rob Mr. Stevenson of any portion of the laurels he has so justly won by the good service he has rendered to the natural history of his county.

“The Red-legged Partridge,” says Dr. Clarke, “is found in France and the Islands of Guernsey and Jersey. It is generally about half as large again as the Common Partridge, from which it is at once distinguished by the variety in the colouring of its plumage. It was introduced into England about the year 1790, by the Marquis of Hertford and Lord Rendlesham, each of whom had eggs procured on the continent, carefully brought to England, and placed under domestic fowls,—the former at Sudbourn, near Orford, in Suffolk, one of his shooting-residences; the latter on his estates at Rendlesham, a few miles from Sudbourn: from these places the birds have gradually extended over the adjoining counties; and in the ratio of their increase the Grey Partridge appears to have diminished.

“For several years after its first introduction it was much prized and sought after by sportsmen, as it was a larger bird for the table, although very inferior in richness and flavour to the common Grey Partridge; and it is still preferred by some, from its flesh being whiter and more delicate. Being also of bolder disposition, more alert, and rising at a greater distance, and consequently more difficult to secure, its acquisition was thought to reflect more sportsman-like credit upon him who possessed the skill to bring it down. Its habits becoming better known, it was found that a great difficulty attending the shooting of this species is due to its practice of running to a distance after alighting, on which account the dogs coming upon the scent were baffled, being induced to draw upon their game; and even then the birds will not rise except at a very considerable distance. Very little sport can therefore be expected, unless the weather be extremely wet; they then are less inclined to run, rise at a lesser distance, and the sportsman has a greater chance of success. The most effectual means of securing them is to attack them during severe weather, in the snow, when the birds resort to the hedgerows for shelter, whence they may be dislodged and then easily shot.

“The female lays from ten to fifteen eggs, of a light stone-colour, freckled with very minute reddish-brown spots, varied here and there with spots of a larger size, and of a rather darker colour. The nest is constructed of dried grass and leaves, on the ground in some warm and sheltered part of a field of growing corn, grass, or clover.”

Perhaps the most interesting portion of Mr. Stevenson's account of this species is his remarks on its supposed immigration from the Continent to this country; and I quite agree with him and Mr. Alfred Newton in believing that the birds found on the beach and denes of Norfolk are individuals which have been influenced by a desire to seek other countries, but, finding the attempt beyond their powers, have returned in a tired state to the shores they had left.

“Both Mr. Lubbock and Messrs. Gurney and Fisher,” says Mr. Stevenson, “have alluded to the supposed migratory habits of the Red-legged Partridge; and my own inquiries amongst naturalists and others residing in the vicinity of the sea certainly confirm their statements as to small coveys of these birds, generally in an exhausted condition, being met with in the spring of the year on various parts of the coast. Captain Longe, of Yarmouth, informs me that in many successive springs, about March or April, he has found French Partridges early in the morning running about the beach close to the water, and on one occasion flushed a covey of from twenty to thirty, which flew around once or twice and then out to sea, still keeping on in a direct course until he lost sight of them, although using a good glass. Every year about the same time many are captured under the boats and fishing-baskets lying on the beach, and others are run down by lads in the gardens near the denes, and sometimes even within the town itself . . . They have been observed in like manner on the Suffolk coast, near Lowestoft, so exhausted as to allow themselves to be picked up by hand. . . . At Cromer, also, the beachmen seem to be fully aware of the annual appearance of these birds on the coast about the end of March. On this point both Mr. William Barclay, of Leyton, and myself have received reliable testimony from one of the most experienced and intelligent fishermen at that favourite watering-place. In answer to my inquiries, William Mayes writes:—‘All the information I can give you about French Partridges is that they come over about the middle of March or beginning of April, some ten or twelve in a flock, the wind mostly south-east and south. I have seen them when I have been out to sea *four and five miles* from land. None come over in the autumn.’ That these concurrent testimonies are indicative of some migratory movement of the Red-legged Partridge there can be no doubt; but while it is by no means easy to decide from what part of the continent we might look for an influx of this species, and there is really no place abroad that these birds could have come from to alight on the Cromer beach, the above statements are by no means incompatible with the idea that emigration, and not immigration, is the true explanation of this somewhat difficult subject. In this view, I know, Mr. Alfred Newton entirely concurs; and the fact that the French Partridge was unknown in this county until introduced is one of the strongest arguments against its vernal immigration at the present time. On the other hand, after the success which has attended its importation and its rapid increase throughout the eastern counties, it is far from improbable that a portion should annually seek to extend their area, and, finding themselves stopped by the German Ocean, attempt to cross it. These birds, or a portion of them (some probably falling short and being drowned at sea), misjudging the distance and their own powers of flight, would return again to our shores in an exhausted state, and when picked up under such circumstances would very naturally be regarded as foreigners just arrived on the coast.”

The Plate represents a male, a female, and a brood of young, of the size of life. The plants are the Common Heath (*Erica cinerea*) and the Harebell (*Campanula rotundifolia*).



COTURNIX COMMUNIS.

J. Gould & H. Richter del. et lith.

Walter, Imp.

COTURNIX COMMUNIS.

Common Quail.

Tetrao coturnix, Linn. Faun. Suec., p. 74.

Perdix coturnix, Lath. Ind. Orn., tom. ii. p. 651.

Coturnix communis, Bonn. Ency. Méth. Orn., part i. p. 217.

———— *dactylisonans*, Meyer, Vög. Liev- u. Esthl., p. 197.

———— *vulgaris*, Flem. Hist. of Brit. Anim., p. 45.

———— *major, media et minor*, Brehm, Vög. Deutschl., pp. 527, 528, 529, tab. 26. fig. 4.

Ortygion coturnix, Keys. et Blas. Wirbelth. Eur., p. 66.

HISTORICALLY speaking the Quail is one of the very oldest known of migratory birds, and is especially interesting from more than one point of view. It fed the Israelites of old, as it now does the epicures of London and Paris, was better known to Moses than to those who now regard it as a choice luxury for the table, and its arrival was looked forward to with as much interest in the East nearly 4000 years ago as it is at the present moment in Sicily, Italy, and elsewhere. It migrates from south to north in April, and takes the reverse course in August and September, crossing the Mediterranean and the Black Sea as regularly as a planet pursues its course.

So much has been written on the history of the Quail and the extent of its range over the globe, that little or nothing new remains to be said on the subject. Its range is vast indeed; for it not only inhabits the whole of Europe, but the greater part of India, Russia, and, perhaps, China and Japan.

In Britain it is far less regular in its appearance than on the neighbouring continent, being plentiful in some seasons and at others but sparingly dispersed; thus at one period the corn-fields and stony elevations almost ring with their "*whit, whit*," while at others the stillness of evening is scarcely disturbed by their well-known notes. Of the three kingdoms, Ireland is the one most frequented by the Quail, the next England, and lastly Scotland. The bird does not appear to evince a preference for any particular counties, and it is just as likely that a pair or pairs may be found breeding in Cornwall as in the northern or any of the intervening English counties: it is the same in Scotland, for it may just as probably be met with on the Grampians as in the Lowlands; and it has been known to breed in the Outer Hebrides. In whatever locality it affects it is only to be found in summer; if an example be seen at the opposite season the circumstance must be regarded as an unusual one: not so, however, in Ireland, for there many, whose migratory instinct would seem to be in abeyance, remain during the winter, unless shot during frosts and sent over with Snipes and Plovers for sale to the London markets, where I have frequently seen examples at this period of the year; and on inquiring what part of Ireland they were from have been told Tralee, a portion of the country spoken of by Thompson as one in which Quails are most abundant. If a correct statistic account could be obtained of the numbers shot in the British Islands, and of the numbers brought to our markets alive from Egypt, Italy, and other southern and eastern countries, I imagine we should be truly astonished. Latham stated, nearly forty years ago, that the Quails came twice a year into the island of Capri in such vast numbers that the bishop of the island drew the chief part of his revenue from them, and that on the west coast of Naples, within the space of four or five miles, 100,000 had been taken in a day. Of the bird in a wild state in England, I have myself taken toll from three bebies in one day, as near to London as the parish of Langley, and within sight of the Royal Castle of Windsor; but the total number was few as compared with the ten or twelve brace a day killed by Mr. Newcome at South Ferry Fens, in Norfolk, as stated by Mr. Stevenson; and I have known similar instances of a like number having been procured by other sportsmen. In the year 1870, Quails came to this country in unusually large numbers, spreading themselves far and wide over England and Scotland, affording much sport to the pursuers of game; for the ground which is suited to the Partridge is equally so to this diminutive but highly nutritive species.

Who better than a clergyman, especially when he is at the same time an excellent ornithologist, ought to be able to settle the vexed question as to whether the "*selav*" of the Hebrews, with which they were so miraculously fed in the wilderness, was or was not the Quail? Surely, then, no apology is necessary for the insertion of the following extract from my friend the Rev. H. B. Tristram's 'Natural History of the Bible':—

"Ingenious commentators have spared no pains in the attempt to prove the '*selav*' was not a Quail, but some other creature they imagined more likely to be found in the desert. In spite of all etymology, and of the distinct allusion in the Psalms to *feathered* fowl, some have suggested locusts, some flying fish; others

have conjectured the Sand-Grouse, '*Kata*,' or the desert Shieldrake, *Casarca rutila*, found about salt lakes, a most uneatable bird; while Dean Stanley has put forward the idea of 'large red-legged Cranes, three feet high, with black and white wings, measuring seven feet from tip to tip,' by which he undoubtedly means the White Stork, the innumerable flights of which literally darkened the sky, he states, when camping near the Wady Huderah (Sinai & Palestine, p. 82).

"It is undoubtedly true that vast flocks of all these three species of birds do visit the Sinaitic desert at the time of migration; and I have also seen the Black Stork in almost as large numbers; while the Dean suggests the possibility of the Stork on account of its standing three feet high, and thus explaining the statement of their being two cubits from the ground. But besides that the flesh of these birds is abominable for food, while the Sand-Grouse is very dry and hard, and could scarcely have fully satisfied the hungry people, we have a clear proof of the identity of the Common Quail with the Hebrew '*selav*' in its Arabic name '*salwa*,' from a root signifying 'to be fat,'—very descriptive of the round plump form and fat flesh of the Quail. The expression 'as it were two cubits high upon the face of the earth' probably refers to the height at which the Quails fly above the ground.

"There are several expressions in the scriptural account which are borne out by observations of the habits of the Quail. At all times its flight is very low, just skimming the surface of the ground, and, especially when fatigued, it keeps close. It migrates in vast flocks, and regularly crosses the Arabian desert, flying for the most part at night; and when the birds settle they are so utterly exhausted that they may be captured in any numbers by the hand. Being birds of weak flight they instinctively select the shortest sea-passages, and avail themselves of any island as a halting-place. Thus in spring and autumn they are slaughtered in numbers on Malta and many of the Greek islands, which they quit in a day or two, very few being seen until the period of migration comes round again. They also fly with the wind, never facing it, like many other birds.

"The period when they were brought to the Camp of Israel was in spring, when on their northward migration from Africa. According to their well-known instinct they would follow up the coast of the Red Sea till they came to its bifurcation by the Sinaitic Peninsula, and then, with a favouring wind, would cross at the narrow part, resting near the shore before proceeding. Accordingly we read that the wind brought them up from the sea, and that, keeping close to the ground, they fell thick as rain about the camp, in the month of April according to our calculation. Thus the miracle consisted in the supply being brought to the tents of Israel by the special guidance of the Lord, in exact harmony with the known habits of the bird. The Israelites 'spread them' out, when they had taken them before they were sufficiently refreshed to escape; 'round about the camp,' to dry and prepare them for food, exactly as Herodotus tells us the Egyptians were in the habit of doing with Quails, drying them in the sun.

"We thus see on careful comparison how the most ancient of all historical works and natural history reflect attesting lights on each other.

"The Quail's note, when once heard, will be always recognized—'Peek-whit-whit!' rapidly repeated, and somewhat resembling the sound of some species of locust. The bird is not gregarious during the breeding-season, and rears large bevvies of young, sometimes as many as sixteen in a brood. It is too well known to require description, and a Quail of the year is considered the most delicate eating of all game."

The mode of incubation of the Quail is very similar to that of the Partridge, the female depositing her eggs in a slight depression in the ground, either natural or scratched for their reception, in the centre of corn-fields, or amidst the covert of bordering scrubs or rough patches of ground. "The eggs," says Mr. Hewitson, "vary much in number, being from six to fourteen, though most commonly ten; they differ also in colour and markings." The egg figured by him as most characteristic of the species is of a deep buff, largely blotched round the centre with deep brown, has numerous reddish dots and stains over the remainder of its surface, and a large patch of dark brown near the smaller end; it measures one inch and a quarter in length by seven-eighths in breadth: a variety figured on the same plate is pale buff, numerous spotted all over with minute marks of deep brown and purple; and Mr. Hewitson says there are more as strikingly different.

The high spirit, ardour, and pugnacity of the Quail have been celebrated from ancient times to the present. "As quarrelsome as Quails in a cage" was a Greek proverb; and Quail-fighting was a favourite amusement with the Greeks and Romans, who kept it in numbers for this purpose as our forefathers did game-cocks; and in India and China Quail-fighting as well as Cock-fighting is still a popular amusement.

The Plate represents a male and female and a clutch of young ones, all of the natural size. The plants are the common Daisy and the Speedwell (*Veronica chamædrys*, Linn.).



TURNIX AFRICANUS, Desf.

TURNIX AFRICANUS, *Desf.*

Andalusian Turnix.

Turnix africanus, Desfont. Mém. de l'Acad. des Sci., 1789, p. 500.

——— *sylvaticus*, Desf. *ibid.*

Tetrao gibraltarius et *T. andalusicus*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 766.

Turnix andalusica, Bonn. Ency. Méth. Orn., part 1.

Perdix gibraltaria et *P. andalusica*, Lath. Ind. Orn., vol. ii. p. 656.

Hemipodius tachydromus et *H. lunulatus*, Temm. Man. d'Orn., 1815, pp. 314, 315.

——— *andalusicus*, Boie, Isis, 1822, p. 558.

Ortygis andalusica, Keys. et Blas. Wirbelth. Eur., p. 66.

Turnix sylvatica, Desf., Gould in Proc. of Zool. Soc., 1866, p. 210.

IN the warmer portions of the Old World there occurs a group of small birds which have been classed, and perhaps correctly, with the *Gallinaceæ*; in size they resemble the Quails; some of the species are a little larger than those birds, and others much smaller. They are all solitary in their habits, and never go in covies or bevs; some have stout rather heavy bills, while in others this organ is slender and longer than in any other Gallinaceous birds of the same size. These, the *Turnices* or *Hemipodes*, have, as the latter name implies, but three toes, while, as is well known, the Quails, Partridges, &c. have a fourth generally well-developed hind one; they all have short rounded wings, and rise with a loud whirring noise from the arid and scrubby plains they frequent. The females, which are by far the largest in size, and the finest in the colouring and distinctness of their markings, invariably lay four eggs in a slight depression of the ground, with little or no nest. Their flesh is dry and not very good for the table, although they are often pocketed by sportsmen and taken home as bush-game.

Of this group of birds many species inhabit India, China, the Philippines, Java, and Australia, and some Africa, one of which, the bird represented on the opposite Plate, has two or three times been killed in England; hence arises the necessity for giving it a place in the Birds of Great Britain. The circumstances under which it has a claim to be included in our avifauna are briefly these:—

In the month of November 1844, Mr. Thomas Goatley, of Chipping Norton, in Oxfordshire, sent a communication to the 'Annals and Magazine of Natural History,' in which he stated that he had lately received a bird which appeared to be new to this country,—a Quail having no hind toe, and not mentioned, he believed, in any work on British ornithology to which he had access, but which appeared to agree with Latham's description of *Perdix gibraltarius*. The bird was shot on the Cornwall estate, about three miles from Chipping Norton, in a field of barley, on the 29th of the previous October, after which date another was killed near the same spot by the same person; but its head was shot off, and it was otherwise so mutilated as to be unfit for preservation. This might probably have completed the pair, the former being a male. It had in its gizzard two or three husks of barley, several small seeds like charlock, and some particles of gravel, and was very fat. It was considerably injured by the shot; but Mr. Goatley had it set up, and justly considered it as a valuable addition to his small collection of British birds. The above is the specimen the occurrence of which is noted in the 'Zoologist' for 1845, p. 872, and of which a woodcut is given at page 989 of the same volume; it was also the subject of the article "Andalusian Hemipode," in the supplement to Mr. Yarrell's 'History of British Birds,' p. 43. It remained the solitary example of the occurrence of the bird in our islands until the year 1865, when Alfred Beaumont, Esq., exhibited, at the Meeting of the Huddersfield Naturalists' Society held on the 21st of June, an example which was taken alive at Fartown, near Huddersfield. This specimen Mr. Beaumont kindly sent up for my inspection accompanied by the following note:—"The bird was purchased alive by the son of S. D. Mosley, a birdstuffer of Huddersfield, from two Irishmen on the 7th of April, 1865, near the Fartown bar on the Bradford Road. He saw it in the hand of one of the men, and thinking it a novelty gave them sixpence for it; the Irishmen regarded it as a young Partridge."

Considerable confusion appears to exist respecting this bird in the works of the earlier writers, by whom it was characterized as two distinct species; this is now known to be an error, since only one bird of this form is found in Europe and on the opposite coast of Barbary. According to Latham, "it occurs in considerable numbers in all the environs of the Garrison of Gibraltar, but not upon any part of the Rock itself. It appears at the same time as the Common Quail, and continues there throughout the winter and spring, but about the breeding-time disappears for the summer; yet there is no reason to suppose that it quits the

country, but rather that it resorts to the upland tracts for the season. It is known to English sportsmen by the name of Trail or Terrail, runs with wonderful agility, and none but the most staunch and excellent dogs are able to flush it. The Spaniards often bring it to market, but are so ignorant of its true history that they suppose it to be young of the Common Quail, from its being a much smaller bird."

Captain Loche informs us that it inhabits the three provinces of Algeria, and Mr. Tristram says that, "although not rare in the wooded districts of the northern part of that country, its nest had, until last year, eluded the researches of all the French collectors. Various eggs had from time to time come into the hands of the Paris dealers, the produce of birds in captivity; but the two eggs figured by Mr. Hewitson in 'The Ibis' for 1859, pl. ii. are, as far as I can ascertain, the very first from a bird in a state of nature. They were taken by Captain Loche, of the French army, in Kobah Forest, on the 11th of July, 1857. The nest contained seven eggs, nearly fresh. It was placed on the ground in the midst of a dense thicket of underwood, most ingeniously concealed, and where no dog could penetrate to put up the bird. It was in such situations that I had frequently before found the bird, which never occurs in the plains or in the desert. When disturbed it is scarcely possible to make it take wing; when beaten out of a bush it half runs, half flies to the nearest cover, somewhat after the manner and with much of the appearance of Baillon's Crake. I do not believe that it migrates in the Atlas, as specimens are occasionally found at all times of the year; nor does it appear ever to congregate, either in flocks or bevs, after the manner of the Quail, to which, indeed, in all its habits it affords a striking contrast. The female is very much larger and generally more brilliant in colouring than the male, and is at least one third heavier than her mate. I was out with Captain Loche when he discovered the nest, of which he kindly allotted me three eggs."

"The eggs," remarks Mr. Hewitson, "bear but little resemblance to those of other gallinaceous birds. The shell is delicate and thin, and touched with a neutral purple tint, which gives them some likeness to those of the Pratincole." The eggs figured in 'The Ibis' for 1859, in illustration of Mr. Hewitson's "Recent Discoveries in European Oology," differ somewhat in size and form, one being rounder than the other, and measuring one inch and a sixteenth in length, while the more oval one measures one inch and an eighth; both are three-quarters of an inch in breadth and very similar in appearance, their ground-colour being a creamy white tinged with purple, and numerousy spotted with various shades of purple and brownish black.

In a subsequent communication to 'The Ibis,' 1860, p. 72, Mr. Tristram says, "I have some doubt whether this bird, so peculiarly a denizen of the thick scrub of the Atlas, can be reckoned in the Saharan catalogue; but French officers have assured me that they occasionally find it in the hills between Djelfa and El Aghouat. I have not met with it there myself; but so shy and solitary a bird might easily escape observation."

With respect to Mr. Tristram's statement that there were seven eggs in the nest found by him and Captain Loche, it is not for me to contradict it; but if, when in Australia, I met with more nests of any one group of birds than another it was those of Hemipodes, and they invariably contained four only, and as invariably were placed in the open, undulated, scrubby, and grassy flats, and never among the thick brushwood nor in the woods; and in a note kindly communicated to me by Lord Lilford he says, "it may interest you to know that a nest of *Turnix africanus*, containing four eggs (one of which is in my possession), was taken near Gibraltar this summer (1869), being, as I believe, the first instance of the nest being found in Europe."

Besides the countries above mentioned, the Andalusian Turnix is found in the southern portions of Europe, from Spain to Italy, but more particularly in various parts of the first-mentioned country, from Gibraltar to Arragon; and the Rev. A. C. Smith informs us that "this pretty species is by no means rare in Portugal; indeed Professor Du Bocage told me that he had often eaten it like any other game, which he naturally considered a decisive proof of its abundance. I was assured by sportsmen that it is found in wooded districts and not in the sandy plains assigned as its habitat by Temminck, Yarrell, and others."

Temminck states that MM. Cantraine and Bibron informed him that this species is common in Sicily in the environs of Catania, where it is known by the name of *Tringuine*, that it is found in the same places as the Francolin, and he believes it does not emigrate, because it is found there in November and December.

The figures represents a male and female, from Tunis or Gibraltar, of the natural size.



OTIS TARDA, Linn.

OTIS TARDA, *Linn.*

Great Bustard.

Otis tarda, Linn. Syst. Nat., tom. i. p. 264.

I CONSIDER it would not add to the interest of my account of the Bustard, were I to give a detailed list of the places and times of its capture in this country. In the convenient handbooks of Selby and Yarrell, this kind of information may be found. I shall therefore only mention some of the later occurrences of this noble bird, which I have selected as a vignette for the cover of the present work.

The extensive warrens and open parts of Norfolk and Suffolk, the heaths about Newmarket in Cambridgeshire, the plains around Salisbury and Stonehenge and other parts of Wiltshire, the downs of Berkshire, Hampshire, and Sussex, and the Yorkshire wolds are among the localities where it formerly existed and doubtless bred; but, like the Great Auk, which has not been seen alive since 1844, it is now extirpated from our island. Dr. Fleming observes that it seems to have been found in Scotland in the days of Hector Boethius, but had become rare in the time of Sir Robert Sibbald. In Ireland it appears never to have been more than an accidental visitor.

Gilbert White, in his Diary, mentions, under the date of Nov. 17, 1782, "Being at a lone farm-house on the downs between Whorwell and Winchester, the carter told me that, about twelve years before, he had seen a flock of eighteen Bustards at one time on that farm." In a note lately addressed to the Rev. John Fountaine by Henry Dugmore, Esq., and kindly placed in my hands by that gentleman, he says:—"I cannot remember the year I was riding with Mr. Hamond when I saw a flock of twenty-seven Bustards rise from Westacre field, and wheel round us within 80 or 100 yards; but I should say it was as far back as 1820."

Frederick J. Nash, Esq., of Bishop's Stortford, several times told Mr. Yarrell "that when he was a young man, and then taking the field as a sportsman, he once saw nine flights of Bustards in one day, not far from Thetford, in Norfolk. Some of these were probably seen more than once; but at that time, about the beginning of the present century, the country between Thetford and Brandon, and thence southward to Mildenhall, was considered to be the head-quarters of the Great Bustard in the counties of Norfolk and Suffolk."

It is evident, then, that until within the last fifty years the Bustard was very far from being killed off, and with ordinary care and protection it might have been preserved until the present day. Whatever interest the landed proprietors may have taken, the small farmer and the poacher made quick work of shooting down the remnant of this fine species. The males appear to have been the first to disappear in all parts of the country, a few females lingering behind until they, too, encountered that fate which awaits so many of the larger animals.

Henry Stevenson, Esq., of Norwich, informs me that "in 1833 three nests were found on Massingham Heath, near Swaffham. Together they contained five eggs, all of which were taken under the impression that no cocks were then existing, and that therefore the eggs would not be fertile. From this time until 1838 hen birds continued to drop eggs at random, forming no nest. The last nest found in Suffolk, according to Mr. Newton, was discovered on the borders of Thetford Warren."

I shall now enumerate some instances of the occurrence of the Bustard since our indigenous birds ceased to exist—stragglers which have now and then flown across from the Continent, like other accidental visitors, and which, like the Sandgrouse, received no other welcome than that of being shot that their skins might adorn some public museum or private collection.

A female, killed near the Lizard, in March 1843, is now in the possession of E. H. Rodd, Esq.; another specimen was shot near St. Austell in 1854.

In 1850 a specimen, said to be a female, was killed at Lydd, in Romney Marsh; in December 1851, another was shot in a marshy piece of ground in the parish of Bratton Clovelly, North Devon. Mr. Gatcombe informs me that the stomach of this bird, which he examined, "contained a quantity of turnip-leaves and a number of flat stones, some of which were about the size of a sixpence. The bird is now in the possession of J. G. Newton, Esq., of Millaton Bridestow, North Devon."

In March 1854 a female was killed at Leeshill, in Cumberland.

In January 1856 one was caught by a boy near Hungerford, and now graces the collection of M. H. Marsh, Esq., M.P. for Salisbury.

In 1859 a young male was killed near Romney, in Kent, by Mr. Chittenden; it is now in the possession of George Simmons, Esq., of East Peckham.

In February 1861 a specimen, the sex of which was not stated, was killed near York.

The middle countries of Europe appear to be the centre of the area over which the range of the Great

Bustard extends—the border-line to the westward being the British Islands; to the southward the plains of Northern Africa, Arabia, and Persia; to the eastward, across Mongolia, where it was met with by Mr. Atkinson, as far as China and the river Amoor; and to the northward, Sweden and Russia. The other known species of Bustard are also confined to the Old World, particularly to Africa and Asia, with the exception of the single species found in Australia.

The following notes respecting the Bustard were communicated to the late Mr. Yarrell by C. A. Nicholson, Esq., of Balrath Kells, in the county of Meath, and were published by him in the twenty-first volume of the 'Transactions of the Linnean Society':—

"You will perhaps be interested by a few remarks on the habits of the Great Bustard as observed by me in the neighbourhood of Seville, where it exists in large numbers. The males begin to arrive in the cultivated part of the country at the beginning of February; they come in flocks, varying from seven to fifty-three, the smallest and largest numbers I have seen together at that season of the year. The old birds always keep together; and those of a year old, which are much smaller and have no beard, never mix with them. The females, which do not arrive until the beginning of April, come singly or at most in pairs; as soon as they arrive, the flocks of males begin to disperse, and you seldom meet more than three or four males together, and very frequently only one. At this time, on a fine day, they turn their tails over their backs, droop their wings, and expand their pouches. While in this attitude, from the whiteness of the under tail-coverts, they may be seen at a great distance. As I have never seen a female near a cock, the sexes appear to live quite separate. During the month of May the males entirely disappear from the cultivated lands, and, I believe, go down to the extensive grass-marshes which stretch along the Guadalquivir, leaving the females behind them. The young Bustards are hatched in the large corn-plains about Seville, and are able to take care of themselves by July. At the end of that month, when, the corn being all cut, no cover remains, the hens and the young birds follow the cocks to the *marisma*, as they call the great marshes in Spain. The heaviest bird I shot weighed 28 lbs.; this was before the hens came, which may perhaps account for its being two pounds heavier than any I shot afterwards. It measured, from tip to tip of the wings, 7 feet 1 inch; while another, which weighed 26 lbs., measured 7 feet 3 inches. The birds of a year old weigh from 8 to 10 lbs., and are much the best to eat. All the birds I shot had their stomachs perfectly crammed with stalks and ears of barley, the leaves of a large-leaved green weed, and a kind of black beetle. When flushed, the birds generally fly a distance of two miles or more, and occasionally at an altitude of at least a hundred yards."

Captain Blakiston, of the Royal Artillery, informs me that, while in the Crimea, during the late war,

"The Great Bustard was first observed on the 19th of December, 1855, and continued flying over in great numbers for three days. The country at the time was covered with snow. Many were killed with bullets while flying, and after they had alighted on the hills. They did not fly in flocks, but somewhat widely dispersed, and generally at a considerable altitude; they appeared to come from the north, and to proceed south-east—perhaps to the coast of Asia Minor, where they would find a comparatively warm temperature. A break of the weather soon after occurred, and then only a few were occasionally seen. I noticed a small number proceeding north in April; but as their appearance was not remarked upon, there could not have been numbers together. It is most likely that the bird breeds in the steppes of the Crimea, as some were seen near the Alma in May 1856; but to account for the enormous numbers which migrated in the winter, we must suppose that the greater part are driven by stress of weather from the mainland of Southern Russia, and that, if some remain on the south coast during the cold season, most of them must cross the Black Sea to Asia Minor."

I do not usually enter into anatomical details, but a passing word is necessary respecting the supposed existence of a pouch or sac in the throat of the Bustard. On this subject many pages of considerable interest have been written by the late Mr. Yarrell in the 'Transactions of the Linnean Society,' by Professor Owen, and more recently by Mr. Alfred Newton in 'The Ibis' for 1862. That there is no true sac or pouch in the throat of the Great Bustard, capable of holding water, there can be, I think, no doubt. The enormous distention of the neck in the old males, which occurs during the pairing-season, is doubtless due to sexual excitement, and, in my opinion, is precisely analogous to what occurs at the same period in the American Prairie-hen (*Cupidonia cupido*), the Great Cock of the Plains (*Centrocercus urophasianus*), and many other birds. At this period the entire neck of the Bustard becomes highly vascular, and the vast network of air-cells with which it is provided inflated to an enormous extent. The attitudes and contortions assumed by the bird are very strange during these paroxysms of pleasure, or when he becomes maddened with rage, should another male dispute with him for the affections of the female. The accompanying illustration by Mr. Wolf gives a good idea of the bird in this state of excitement, which might have been daily seen, a short while ago, in the Gardens of the Zoological Society.

The difference in the sexes is very marked, the female being about half the size of her mate, and wanting, except in some very old birds, the lengthened hair-like appendages which adorn the cheeks.

The Bustard is omnivorous, its food consisting of the tops of vegetables, trefoil, grasses, worms, insects, snails, frogs and other reptiles, mice, and, it is said, young birds. The eggs, which are deposited in a depression on the bare ground, are two in number, of a sandy olive, stained and blotched with purple and reddish brown.

The Plate represents a female and two young birds nearly the size of life, with reduced figures of the male in the distance.



OTIS TETRAX, Linn

Walter & Cohen, Imp

J. Wolf, und. H. C. Richter, del et lith.

OTIS TETRAX, *Linn.*

Little Bustard.

Otis tetrax, Linn. Syst. Nat., tom. i. p. 264.

—— *minor*, Briss. Orn., tom. v. p. 24, pl. ii. figs. 1 & 2.

Tetrax campestris, Leach, Syst. Cat. of Spec. of Mamm. and Birds preserved in Brit. Mus., p. 28.

UNLIKE the Great Bustard, which at one time was indigenous to our island, this smaller species has no more claim to rank as a British bird than any other accidental visitor. It is true that records of its having been shot in many counties, from Cornwall to the banks of the Tweed, may be found in the various works on British ornithology, but these occurrences extend over a great number of years—from the time of Pennant to that of Yarrell. North of the Tweed it has seldom occurred; and the late Mr. Thompson states that only two have been seen in Ireland. If this general view of the occurrence of the bird in Britain should not be sufficiently precise, I must refer my readers to the pages of the ‘Zoologist,’ the works of Yarrell and others, where the exact dates and localities will be found. I must admit that I am somewhat surprised that the majority of the specimens which fly over from the Continent to England should pay their visits in autumn or winter. Is it because our island is more humid, and less affected by the frost, than France and Germany? or are these autumnal visits of an accidental character, when the bird, finding the climate suitable for winter-quarters, tarries until it is shot, which is usually its fate?

Having stated that Britain is not the true home of the Little Bustard, and that it was never indigenous here, I now proceed to mention what parts of the earth’s surface it enlivens. These are the open campaign parts of France and Spain, the sterile districts of Germany and Turkey, and the southern steppes of Russia, as far east as the Caspian Sea. In all these latter countries it is abundant, particularly in summer; and I have not the least doubt that it is strictly migratory, and that it crosses both the Mediterranean and Black Sea in spring and autumn,—the greater portion of those which summer in France and Spain proceeding to Morocco and other parts of northern Africa in winter, and those which breed in the Crimea crossing in like manner to Asia Minor and Persia.

“Pennant, in his ‘Arctic Zoology,’ says that the Little Bustard is frequently met with in the southern and south-western parts of Russia, where it migrates in small flocks, and that it is also found in the deserts of Tartary. It is numerous in France, and also occurs in Spain, Provence, Italy, and Sardinia, where Vieillot says it remains all the year. It is found in North Africa, Turkey, and Greece. Specimens have been sent to the Zoological Society from Erzeroum by Keith Abbott, Esq., and by Messrs. Dickson and Ross, who state in their notes that it is very common in the ploughed fields on the skirts of the marshes. Ménétriés observes that it is numerous at the foot of Mount Caucasus, particularly towards the shores of the Caspian Sea. Near Baiku, in December, he saw immense flocks passing from east to west: of all those seen or procured and examined, not a single male had any black on the throat.” (Yarrell, ‘Hist. of Brit. Birds,’ vol. ii. p. 373.)

Africa is the principal habitat of the *Otidinæ*, more species of the family of Bustards existing on that continent than in any other part of the world; in Africa also the largest known species are found, while the smallest, the *Sypheotis aurita*, is a native of India. It is somewhat singular that, so far as I am aware, no species of *Otis* has yet been discovered in Java, Sumatra, or Borneo, while a very fine one solemnly treads the extensive plains of Australia. The family comprises about twenty species, which, though bearing a very marked resemblance in structure, have been divided into half as many sections or minor groups, to which generic appellations have been assigned,—that of *Tetrax* being given to the present bird. Without questioning the propriety of this arrangement, I shall figure our own two Bustards under the term of *Otis*. Those who have not made ornithology a study will be surprised to learn that it is in spring alone that the male is adorned with the black and white markings of the neck and the lovely grey hue of the face and cheeks, that at other seasons he is clothed like the female, and that it is only when thus gaily attired he solicits the opposite sex to mate with him. The assumption of this gay plumage is commenced when the sun returns to our latitudes, and with his genial warmth stimulates alike both animal and vegetable life; it is completed by the time the great luminary has reached the zenith, after which the bird again moults and reassumes his winter livery. In this country the Little Bustard is seldom seen in his full nuptial dress: of the many examples that have been killed here, I do not recollect more than two in this state; of these one, formerly in Mr. Bullock’s collection, is now in the British Museum; the depository of the other has escaped my memory. The former is said to have been taken in Norfolk, which county, together with the adjoining ones of Suffolk and Essex, appears to have been more frequently visited by this species than any other. “Several specimens of this rare and accidental visitant,” says H. Stevenson, Esq., “have occurred

from time to time in Norfolk, three having been shot within the last eight or nine years: the first of these, a male in my own collection, was killed, during very severe weather, on the 29th of December 1853, in a turnip-field on the road leading from Winterton to Yarmouth; it was in high condition, and had its stomach literally crammed with vegetable matter, apparently fragments of some large leaf with a rough surface and serrated edge. Several more specimens were killed about the same time in other counties, and were recorded in the 'Zoologist' for 1854. On the 4th of March 1858, a fine adult female was shot in the South Town Marshes at Gorleston, near Yarmouth; it is now in the possession of J. H. Gurney, Esq. This bird was also in good condition, the stomach being filled with various kinds of green food. The wind, at the time this bird was killed, and for some days previously, was N.E., the weather intensely cold, with snow on the ground—in fact, exactly such weather as at the time the male above-mentioned was obtained. In the case of such an accidental visitant to our coast, it may not be uninteresting to enumerate as far as possible the herbs and grasses, portions of which formed the contents of the stomach of the specimen. By far the larger part consisted of a long fine grass, with a brackish odour, apparently from the marshes, mixed and matted with which was a species of *Conferva* from the ditches, two flowers of the common daisy (*Bellis perennis*), and a narrow scolloped leaf resembling cat's ear (*Hypochaeris glabra*), fragments of a thistle, and of the water-ranunculus (*Ranunculus aquatilis*). These were all that could be identified. The third and last Norfolk example was procured at Blo Norton, near Thetford, on the 29th of November 1860. It proved to be a female, and was killed in a turnip-field, which seems to be the favourite resort of the bird when visiting this country; for Mr. Lubbock remarks that, in the three instances of its occurrence that had come under his observation, it was found in fields of this kind of vegetable. This specimen appeared during somewhat mild weather, which preceded only by a week or two the intensely severe frosts of the following two months, during which two others occurred in the adjoining counties of Suffolk and Essex; it is evident, therefore, that the Little Bustard is merely a winter visitant to our coasts, its appearance depending in a great measure upon the degree of severity in the weather." In France, where the bird is common, it arrives in April, and departs in September. It is said to be polygamous, the male assuming a station, and attracting the females by his cries.

Captain Blakiston, R.A., informs me that, during his sojourn in the Crimea, "the Little Bustard was occasionally shot in the Chersonese during the winter and in the spring, until near the end of April; and he saw several on the plains between Sebastopol and the Alma at the end of May, but only two that were in company."

Mr. Yarrell states that "the nest is on the ground, among herbage which is sufficiently high to hide the bird. The eggs, which are laid in June, vary in number, according to different authors, from three to five; the length two inches, the breadth one inch six lines; the colour of one in my own collection uniform olive-brown; but I have seen them slightly clouded with patches of darker brown." "Those eggs which I have seen," says Mr. Hewitson, "are all more or less suffused with colour. Any one who had previously seen the eggs of the Great Bustard would look for a similar character in those of the present species; and he would be pleased in observing the resemblance which they bear to each other, distinct as they are from those of all other birds." M. Bailly, in his 'Ornithologie de la Savoie,' states that the eggs are three or four in number. The young follow the mother like those of a domestic fowl, and on the appearance of danger conceal themselves by squatting among the herbage: they are unable to fly until about the middle of August.

The Little Bustard is occasionally sent to this country as an article of food; and those of my readers who deal with the London poulterers—Bailey, of Mount Street, or Fisher, of Duke Street—may have a chance of ascertaining for themselves the quality of its flesh, which, in my opinion, is preferable to that of the larger species. Mr. Yarrell says it has the appearance and flavour of that of a young hen Pheasant; others say it is dark-coloured, but of an exquisite flavour.

That the *Otis tetrao* bears confinement tolerably well is evidenced by the circumstance of examples having lived for many months at a time in the menagerie of the Zoological Society, and become as familiar with the visitors as any of the other denizens of the aviaries, among which at this moment (April 1864) are several fine examples of their larger brethren.

The flight of the Little Bustard is very rapid, and it runs with equal celerity over the sterile wastes, upon which it is frequently found, and upon which it squats close to avoid detection on the appearance of danger.

The Plate represents a male and a female, in summer—the former of the natural size, the latter somewhat reduced—with a small figure of a male in the distance.



GRUS CINEREA.

Common Crane.

Ardea grus, Linn. Faun. Suec., p. 57.

Grus cinerea, Bechst. Naturg. Deutschl., tom. iv. p. 103.

— *cineracea*, Brehm, Vög. Deutschl., p. 571.

— *communis*, Bechst. Orn. Taschenb., tom. ii. p. 271.

— *vulgaris*, Pall. Zoogr. Rosso-Asiat., tom. ii. p. 106.

THE family of *Gruidæ*, or Cranes, comprises nearly twenty known species, which have been divided by modern naturalists into many genera. Of the entire number, about fifteen are common to the Old World, and three to the northern portion of the New. The members of the former section range over various portions of the globe from China to Australia, and from Lapland to nearly the south of Africa. The Common Crane, the species here represented, enjoys perhaps a wider range than any of the others; for it is found in all suitable situations throughout North Africa, India, and China.

In Europe, it breeds in Spain and probably in most other countries in a northerly direction to the verge and even within the limits of the Arctic circle. It also forms a portion of the avifauna of India. By the earlier writers, who associated the Cranes with the Storks and Herons, we are told that it nested in Britain; but this is no longer the case, and we now only hear of an example having been captured in our islands at uncertain intervals, our country having evidently become unfitted for such fine birds as the Crane, the Ibis, and the Spoonbill, all of which are now rarely seen. Still, scarcely a year passes without one being observed, the last instance with which I am acquainted being one seen in a field of barley on the estate of A. Hamond, Esq., at Westacre, near Brandon, in Norfolk, in June 1859. Lord Lilford, when writing to me about this species, says:—"I well remember seeing two birds, which I am now convinced were Common Cranes, flying at a great height over Hyde-Park Corner many years ago—I should say, in the early spring of 1848 or 1849. I had then never seen Cranes on the wing before, and was much astonished and puzzled, as were a great many other people in Rotten Row." Thompson, speaking of the Crane in Ireland, states that although it formerly bred there, its visits are now as uncertain as in Britain.

The Crane is a bird of passage, migrating north and south according to the seasons. In winter it is more abundant in Africa and India, while in summer it goes much further north. During its migrations it becomes gregarious; and both wonderful and interesting is the appearance which the moving flocks present to the inhabitants of the regions over which they pass in spring and autumn. The accompanying illustration of a scene of this description witnessed by Mr. Wolf on the Rhine, will give a far better idea of the manner of their flight and the aspect they present on alighting than whole pages of the most careful description. Such scenes must be most interesting to every one; but to follow the bird to its northern summer retreat is an acme of pleasure reserved for few; it has, however, been enjoyed by the late Mr. Wolley and some other of our living ornithologists. For a lengthened paper on this subject I must refer my readers to 'The Ibis' of 1859, from which only a short extract can be given here.

"In common," says Mr. Wolley, "with, I believe, most people interested in such matters, I was long entirely in ignorance as to the condition in which the young Crane (*Grus cinerea*) would be found on first leaving the egg, whether helpless like a young heron, or able to run about like the young of most wading and gallinaceous birds. The late Prince Charles Bonaparte had inclined to think they would long continue nestlings; Mr. Gould, as he assured me, had always opposed the probability of this opinion.

"It was on the 15th June, 1853, that I entered the marsh which the well-known Pastor Læstadius had told me was the most northern limit in Lapland of the breeding of the Crane. It is in Swedish territory, being on the west side of the frontier river, opposite the Finnish (Russian) village of Yli Muonioniska, in about lat. 68°—that is, some distance within the Arctic circle. This great marsh, called "Iso uoma," is mostly composed of soft bog, in which, unless where the bog-bean grows, one generally sinks up to the knees, or even to the middle; but it is intersected by long strips of firmer bog-earth, slightly raised above the general level, and bearing creeping shrubs, principally of sallow and dwarf birch, mixed in places with *Ledum palustre*, *Vaccinium uliginosum*, *Andromeda polifolia*, *Rubus chamæmorus*, besides grasses, *Carices*, mosses, and other plants.

"Walking along one of these strips, in a direction where the pair of Cranes was said to be often heard, I came upon a nest which I was sure must be a Crane's. I saw one bit of down. The nest was made of very small twigs mixed with long sedgy grass, altogether several inches in depth, and perhaps two feet across. In it were two lining membranes of eggs; and on searching amongst the materials of the nest, I found fragments of the shells. We had not gone many yards beyond this place when I saw a Crane stalking in a direction across us amongst some small birch trees, now appearing to stoop a little, and now holding its head and neck boldly up as it steadily advanced.

Presently the lads called out to me that they had found some young Cranes. As I ran towards them, a Crane (not the one I had previously seen) rose just before me from among some bushes which were only two or three feet high, and not twenty yards from the place where the lads had been shouting for at least a minute or two. It rose into the air in a hurried frightened way. There was nothing just at the spot where it got up, neither eggs nor young. I then went up to where the two little Cranes were found. They were standing upright and walking about with some facility, and making a rather loud "cheeping" cry. They seemed as if they could have left such eggs as Cranes were supposed to lay only a very few days. I say *supposed*; for in England we know nothing of the eggs which are called Cranes', but which may have come from any part of the world. They were straightly made little things, short in the beak, livid in the eye, thick in the knees, covered with a moderately long chestnut or tawny-coloured down, darker on the upper parts, softening away into paler underneath. As I fondled one of them it began to peck playfully at my hands and legs, and when at length I rose to go away, it walked after me, taking me, as I supposed, for one of its long-legged parents. I had only just before been plucking from it some bits of down to keep; for, valuable as I knew it to be in a natural history point of view, I could not make up my mind to take its life. As soon as I saw its inclination to follow, I took to double-quick time, and left it far behind. Its confidence was the more remarkable as all the time we were with it the old Cranes were flying round near the ground at some distance from us, their necks and feet fully stretched out as usual, but with a remarkable sudden casting up of the wings in a direction over the back after each downward stroke, in place of the ordinary steady movement. At the same time they were making a peculiar kind of low clattering or somewhat gurgling noise, of which it is very difficult to give a description; and now and then they broke out into a loud trumpeting call not unlike their grand ordinary notes, which, audible at a great distance, gladden the ears of the lover of nature.

"The Crane in Lapland is not gregarious when it has once arrived at its summer quarters. As soon as it reaches its breeding-place (for the most part as soon as the snow is mainly off the ground), it repairs its simple nest, and lays its two eggs; for two were in each of the four nests that have occurred to me, and two generally say those few natives who know any thing about the subject. The nest is neither large nor concealed. The birds are silent towards intruders on the eggs. The young run probably as soon as, or soon after, they are hatched, and by some means are led or conveyed to a great distance by their parents after having been disturbed. They have a chestnut or tawny down, no feathers visible in their wings for some time. In Lapland, and, as far as I have heard, in Sweden and Finland, the Crane never breeds otherwise than on the ground."

"The Common Crane of Europe," says Mr. Jerdon, "visits India in numerous flocks during the cold weather. In the Deccan and Central India it is generally seen in small parties of from six or eight to twenty, and now and then in much larger numbers, especially in the Punjab and the North-western Provinces. It feeds chiefly on grain, committing great havoc in the wheat- and rice-fields in Bengal; but it also eats the shoots of plants and flowers, and occasionally, it is said, insects and reptiles. On one occasion I found the flowers of *Carthamus tinctorius* had been the only food partaken of. In China it is stated to devour sweet potatoes. It feeds chiefly in the morning, and rests during the day in some river or tank, returning to the fields for a short time in the afternoon. It utters a fine, loud, trumpet-like call, chiefly during flight. It leaves India early, generally before the end of March, and breeds in Northern Asia and Europe, mostly in marshy ground. The eggs are two in number, of a greenish colour, with some brownish spots. This Crane is occasionally hawked at and killed by a good Bhyri (*Falco peregrinus*)."

For the following note on the breeding of this bird in Spain, I am indebted to Major L. H. Irby:—"The Common Crane, known to the Spaniards by the name of 'Grulla,' is very plentiful in winter in Southern Spain and Morocco, arriving in October and leaving in March. I was unable to find or hear of any nesting in Morocco; but a few pairs, varying in number according to the wetness of the season, annually occur at the Laguna de Janda, about twenty miles from Tarifa, on the road to Cadiz; a few also sometimes nest at the Laguna near Casa Viega, about ten miles further to the northward. The maximum number nesting in these two places is about twenty-five or thirty pairs. These lagunes generally become dry in August. In some years a few pairs nest in the marismas of the Guadalquivir, but not, so far as I am aware, in any other locality. The nest is always placed in the laguna, and is simply a collection of grass and rushes raised above the level of the water, in which never more than two eggs are laid. About the 5th of May is the earliest date on which they begin to lay; and eggs hard set and only fit to hatch have been found on the 10th of June. The shape and colouring of the eggs found in different nests vary a good deal in size, shape, and colour; but those in each nest are always alike in these respects. They usually resemble the markings and colour of the Great Bustard; but a rare and beautiful variety, more elongated and of a coffee-creamy brown colour, beautifully marked at the larger end with reddish brown, is occasionally found."

The principal figure in the Plate is about one third of the natural size.



ARDEA CINEREA, Linn.

ARDEA CINEREA, *Linn.*

Heron.

Ardea cinerea et *major*, Linn. Syst. Nat., tom. i. p. 236.

— et *Ardea cristata*, Briss. Orn., tom. v. pp. 392, 396, pl. 35.

— *major*, *cinerea*, et *cineracea*, Brehm, Handb. der Naturg. Vög. Deutschl., pp. 578, 580.

? — *leucophæa*, Gould, Birds of Australia, vol. vi. pl. 55.

WHAT harsh, sharp shriek is that we hear when walking through the beautiful woods of Cliveden, by the banks of the Thames? It proceeds from a great bird in the air, with rounded wings, contracted neck, and long legs extended straight out behind, which, with a laboured flight, has come from a distant locality, perhaps one of the royal parks at Windsor, to fish in our far-famed river. What is that large bird we see during a railway excursion, flying to and fro from the Kennet and the Lodden to the immediate precincts of the town of Reading during the months of early spring? What is the gaunt-looking object, with outstretched neck, we notice standing motionless in the estuary of the Exe, or wading in the water near Dawlish? It is the Heron—the bird so famous in old times for the exciting sport it afforded to the lovers of falconry, and which formed so conspicuous an item in the feasts of the nobles on great state occasions—the bird so well known to the great bard of all time: “When the wind is southerly, I know a hawk from a hern-shaw.”

When these words were penned by Shakspeare, the Heron was more numerous in the British Islands than it is now; but it is still sufficiently plentiful to be regarded as a common bird.

So much has been written respecting the Heron and the heronries of England, that but little remains to be told by the author of the present work. Macgillivray, Yarrell, Selby, Thompson, and others have each given voluminous accounts of its habits and manners; but perhaps I may have had better opportunities of making myself acquainted with its range over the globe than any of those writers. I may state, then, that, besides the British Islands, it is distributed over the whole of Europe, all parts of India, China, and Japan, and that southward of these countries it probably extends throughout the islands of the Eastern Archipelago to the most southern parts of Australia. This austral position may also be assigned to the bird in the old country of Africa; for it is stated to be there very generally dispersed, and to be an inhabitant of the colony of the Cape of Good Hope.

In the British Islands the Heron is to be met with at all seasons. In the autumn and winter months it is found in the marshes near the sea-coast, on the mud-banks of estuaries, and the borders of rivers, lakes, and large ponds. Early in the year it seeks the usual woodland places of nidification, and commences the reparation of its old nests of sticks among the branches of trees, or, where there are no trees, in the open marsh; the latter situation, however, is a very unusual one. Like the Rook and the Wood-Pigeon, the Heron throws off its customary shyness during the breeding-season, and at that period seeks the protection of man by frequently building close to his mansion, and will even enter the precincts of towns, an instance of which may be seen, any spring, at Reading in Berkshire. The period when it resorts to such a situation is so regular, that its arrival may be looked for almost to a day. The heronry at Diddington, in Norfolk, Mr. Tyssen Amhurst informs me, is regularly peopled within a day or two of the middle of February. There is then a great clattering of bills and flapping of wings, with other indisputable evidence of their having paired and that the breeding-season is about to commence. Early in the month of March three or four eggs are laid, and by the middle of April the task of incubation has terminated, and the young are hatched. In their first or downy plumage, the young are most grotesque in appearance, and by no means beautiful to look upon; in a short time the downy covering gives place to feathers, which first appear on the wings and tail, then on the body. By the beginning of June they get out on the branches; and soon after this their pinions become sufficiently developed to enable them to take short flights, and gain food for themselves. In the breeding-season, when the Heron has more than usual demands upon his industry, it is somewhat destructive to the tenants of the trout-stream, if other kinds of fish are not to be obtained. The mode of their capture is known to every one who has seen the bird patiently watching knee-deep in the stream, with its bill pointed towards the water ready for the stroke, which is so dexterously dealt that the aim is seldom missed. The fish seized, it is tossed into the bird's capacious gullet; and the process is repeated until its pouch is filled, when it immediately wings its way straight to its nest, where its ravenous young are awaiting the expected and welcome supply. Capturing small trout, I am sorry to say, is not the only mischief the Heron indulges in; for while standing motionless in the stream, fish of a large size occasionally pass him, in pursuit, may be, of their own prey, and are sometimes struck with a well-directed thrust of its pointed mandibles just behind the head, or precisely in that part of the poll in which a weasel seizes a hare. It

is not only fish, frogs, and insects that the Heron takes; for a water-rat or the chick of a Moorhen or Rail will not come across him twice. Mr. Henry Shaw, of Shrewsbury, tells me that he once took a fully fledged Moorhen from the gullet of a Heron; and, from the enormous dilatability of that part of the bird's structure, I can well believe it.

As spring advances, the beautiful occipital plumes common to both sexes, but finest in the male, are assumed; and the entire plumage becomes finer than in winter. The young of the first autumn differ greatly from the adults, being clothed in a dingy grey dress, without any lengthened feathers on the breast or occipital plumes. It is at this age that it is best for the table: for a history of the bird would be incomplete without an allusion to its being an "*oiseau de luxe*" of our continental neighbours; and to the excellence of its flesh, when the bird is young and in good condition, I can myself bear testimony.

Macgillivray has given so graphic a description of the places of resort and the habits of the Heron, as seen in the North, that I must be excused for reproducing it here.

"The cold blasts of the north sweep along the ruffled surface of the lake, over whose deep waters frown the rugged crags of rusty gneiss, having their crevices sprinkled with tufts of withered herbage, and their summits crowned with stunted birches and alders. The desolate hills around are partially covered with snow; the pastures are drenched with the rains; the brown torrents seam the heathy slopes; and the little birds have long ceased to enliven those deserted thickets with their gentle songs. Margining the waters extends a long muddy beach, over which are scattered blocks of stone, partially clothed with dusky and olivaceous weeds. Here and there a Gull floats buoyantly in the shallows; some Oyster-catchers repose on a gravel-bank, their bills buried among their plumage; and there, on that low shelf, is perched a solitary Heron, like a monument of listless indolence—a bird petrified in its slumber. At another time, when the tide has retired, you may find it wandering with slow and careful tread among the little pools and by the sides of the rocks in search of fishes and crabs; but, unless you are bent on watching it, you will find more amusement in observing the lively Tringas and Turnstones, ever in rapid motion; for the Heron is, or seems to be, a dull and lazy bird; and even if you draw near, he rises in so listless a manner that you think it must be a hard task for him to unfold his large wings and heavily beat the air until he has fairly raised himself; but now he floats away lightly, though with slow flappings, screams his harsh cry, and flies to some distant place, where he may remain unmolested.

"About the middle of March numerous individuals assemble in certain places, and soon after resort to their breeding-stations, which are not in the rushy marshes or on unfrequented islands, but on tall trees, sometimes in large woods, but more frequently in places near some old family mansion. The nests, which are very large, nearly flat, and constructed of sticks, with a lining of grass, wool, and similar materials, are sometimes crowded together in great numbers, generally on the highest trees, but occasionally on those which would seem not well selected for security, or even on an isolated tree of no great height. The eggs are light bluish green, broadly elliptical, or having both ends nearly equally rounded, $2\frac{1}{4}$ inches in length, by $1\frac{5}{12}$ inch in breadth. Incubation continues about twenty days; and the young, at first sparsely covered with tufts of down, remain about six weeks in the nest. Mr. Yarrell states that sometimes Herons build on precipitous rocks near the coast, as at South Stack Lighthouse, near Holyhead, and at Great Orme's Head; they are said also to build occasionally on the ground, among reeds and rushes."

Mr. Yarrell has given a lengthened list of the heronries still existing in England, but has omitted to mention that belonging to Sir George Musgrave, Bart., at Eden Hall, in Cumberland, which his son, R. C. Musgrave, Esq., informs me is one of the largest, as it comprises nearly two hundred Herons.

The front bird in the accompanying Plate is about half the size of life; the young are represented in the state in which they appear when two or three days old, and are figured from examples kindly sent to me by Mr. W. A. Tyssen Amhurst, of Didlington Park, Norfolk.



ARDEA PURPUREA, *Linn.*

Purple Heron.

- Ardea purpurea*, Linn. Syst. Nat., tom. i. p. 236.
—— *caspia*, S. G. Gmel. Reise, tom. ii. p. 193, tab. 14.
—— *botaurus*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 636.
—— *rufa*, Gmel. ibid., p. 642.
—— *purpurata*, Gmel. ibid., p. 641.
—— *rubiginosa*, Gmel. ibid., p. 632.
—— *purpurascens*, Brehm, Vög. Deutschl., p. 583.
—— *variegata*, Scop. Ann., tom. i. no. 120.
—— *monticola*, La Peyr.
-

In structure, plumage, and ornamentation this bird is somewhat intermediate between the Common Heron and the Bittern ; for it has the lengthened plumes and scantily clothed neck of the former, with the shorter legs and wide-spread toes of the latter. And so it is as regards its habits, manners, and economy. Like the Bittern, the Purple Heron is shy and recluse, frequenting rushy and watery marshes rather than the open country. Its nidification takes place among the reeds or on shrubby alders in the midst of swamps ; while, as is well known, the Common Heron, with but few exceptions, nests on trees such as Scotch firs and oaks, at a considerable height above the ground. In number and colouring, the eggs of both birds are very similar. The principal food of the Common Heron is fish ; while that of the Purple Heron consists of shrews, mice, frogs, reptiles, and insects—not that it will refuse fish if they come in its way. The Common Heron, with its long straight legs, exposes itself on the banks of rivers and estuaries, whence, always alert, it scans the surrounding districts. The present species, on the contrary, aided by its lengthened toes, skulks among the herbage on the watery beds of reeds and aquatic plants, from which it is not easily made to take wing ; and then it only flies for a short distance to a place of greater security. Ornithologists generally admitting that these birds greatly differ, it is somewhat singular that they have never been generically separated and a distinctive name given to the Purple Heron.

However widely spread over the Old World the present species may be, it must only be regarded as a casual visitor to Britain, and its visits as both infrequent and irregular ; still Yarrell states that “since the days of Pennant and Montagu many examples, in different states of plumage, have occurred in this country, particularly on the southern coast—one recorded by Dr. Edward Moore, of Plymouth, and others by Mr. Selby and Mr. Hoy ; so that no doubt can remain of the propriety of including it in a history of British birds. Mr. Couch, of Polperro, sent Bewick a drawing taken from a specimen which alighted on a fishing-boat two or three leagues from the coast of Cornwall. The bird was caught and brought on shore alive, but soon died. Dr. Edward Moore notices two examples, both young birds, in Devonshire. In February 1839, Plumptre Methuen, Esq., sent me word that he had obtained a specimen shot near Plymouth.” Mr. Selby, who published in 1833, says, “I may mention that, in the month of May 1830, a fine male Purple Heron that was killed in Norfolk came into my possession, and its mate into that of Sir William Jardine ;” and in a note, adds, “Since writing the above I have heard of three other specimens, two killed in Norfolk, and another near to London.” Mr. Hoy, in the ‘Magazine of Natural History’ for 1837 (vol. x. p. 116) says :—“Some time in the month of November 1835, a Purple Heron was obtained on the borders of a large piece of water, known by the name of King’s Fleet, near the mouth of the Woodbridge river, in Suffolk. The bird rose from the thick reeds which skirt the water, and was at first supposed to have been a Bittern by the person who shot it. This bird was in the plumage of the first year. From the redness of its colours at this age it may be readily mistaken for the Bittern when first seen. I have known two other instances of this species of Heron occurring in this county. I have also known two or three individuals to have been met with in Norfolk within a few years.” Mr. Thompson has also made known one instance of this bird having been killed in Ireland.

Mr. Stevenson, in his ‘Birds of Norfolk,’ after enumerating and repeating some of the occurrences mentioned by Yarrell, says, “Of late years I have known of but two specimens obtained in Norfolk, both in immature plumage. The first was shot on Hoveton broad on the 1st of July, 1862, by Lord Lilford, who, with a small party, was Flapper-shooting at the time. Another, in my own collection, was purchased in the Norwich market on the 28th of October, 1865 ; this bird, which was fat, weighed two pounds three ounces,

and the stomach contained a mere pellet of mouse-hair, which, from the dimensions of the tail remaining in the pellet, was believed to be that of a short-tailed field-mouse."

During the progress of the present work its pages have been frequently enriched by notices of the occurrence of some of our rarer birds, kindly transmitted by various friends; and the three following relative to the present subject are now before me. Mr. E. H. Rodd, writing from Penzance, April 24th, 1867, says, "I examined a female Purple Heron yesterday which had been brought from the Lizard. It was in the rufous or immature state of plumage—that is, if such be the plumage of the female before the development of the plumes characteristic of the adult male. The proof of its being a female was conclusive, the opening of the ovary displaying a series of eggs from the size of swan- to that of dust-shot."

Mr. R. C. Musgrave, in a note dated Eden Hall, Penrith, November 21, 1870, says, "the Purple Heron in my father's collection was shot near Alston, in Cumberland, about twenty years ago;" and, lastly, Mr. J. H. Gurney, jun., writes from North Repps, near Norwich, on the 5th of March, 1872, "a very fine young Purple Heron was shot at Horning (which is between Norwich and the sea-coast), about the 4th of December last, and was taken to a Norwich bird-stuffer, of whom I bought it. Two mice were found in its stomach. My father has an adult Sussex specimen."

The Purple Heron is, perhaps, nowhere more abundant than in Holland and in the adjoining province of Brabant. There it is common, and breeds in many of the great swamps near the embouchure of the Rhine and other rivers of those low countries; it is also found to the northward of those countries, but in less and less abundance as we proceed in that direction; to the southward, on the contrary, its numbers do not diminish; and it is found throughout the central and southern parts of Europe, wherever localities suitable for its maintenance occur. It is tolerably abundant, and even breeds in Spain, as will be seen on reference to Mr. Howard Saunders's paper in 'The Ibis' for 1871, p. 390, where he states, "This species is abundant, breeding a few miles from Seville. It was the only Heron we saw at the Albufera, of Valencia, where we found upwards of a dozen nests in a reed-bed on the 29th of May—some with young birds, and others with eggs in various stages of incubation. The nests were most flimsy structures, being little more than reeds bent down and arranged crosswise, with a few separate pieces added. The complement of eggs in no case exceeded three. The following is a description of the nestling, made on the spot:—Skin and feet yellowish green, yellow on the abdomen; upper mandible greenish horn-colour, lower mandible yellow; iris pale straw-yellow; feathers reddish brown; hairy crest; shafts of feathers lead-blue; all edged with white down; claws horn-white. Cry for food, 'kick, kick, kick,' harsher when irritated."

The occurrence of the Purple Heron may probably also be looked for throughout the whole of Africa from north to south, but of course only in such situations as are favourable to its habits—that is, among the rank vegetation of the Upper Nile and the banks of the other rivers of that as yet but partially explored country. In India it is common, as the following note by Jerdon, in his 'Birds of India,' will testify. "The Purple Heron," says this author, "is very abundant in the well-watered districts of India, frequenting marshes, reedy ground, rice-fields, and the like, but is rarely or never seen on the bare and open spots frequented by the Common Heron. It may often be observed with its head and long neck just protruding above the grass, looking remarkably like the head of a snake, which has suggested its Telugu name of Snake Heron. It rises with a loud harsh cry, which it repeats as it flies along, especially if it has been alarmed. Unlike most of the other Herons, this species breeds among the large reeds. I have seen several of its breeding-places; but its nests were quite inaccessible. It feeds on fish, frogs, &c. It is found throughout India and Ceylon, extending into Burmah and Malayana."

Mr. Swinhoe informs us that the Purple Heron is found in Central China, and states, on the authority of Temminck, that it frequents the even more eastern country of Japan.

There exists so little difference in the outward appearance of the sexes, that dissection must be resorted to to distinguish the one from the other.

The Plate represents a fully adult bird in the breeding-plumage, about two-thirds of the natural size.



HERODIAS ALBA.

Great White Egret or White Heron.

- Ardea alba*, Linn. Faun. Suec., p. 59.
—— *egretta*, Temm. Man. d'Orn. (1815), p. 367.
—— *egrettoïdes*, S. G. Gmel. Reise, tom. ii. p. 193, tab. 24.
—— *modesta*, J. E. Gray, Zool. Misc., p. 19.
—— *flavirostris*, Wagl. (Jerdon).
Erodius Victorice, Macgill. Man. Nat. Hist., Orn. vol. ii. p. 131.
—— *albus*, Macgill. ib. vol. ii. p. 134.
Herodias candida, Brehm, Vög. Deutschl., p. 584.
—— *egretta*, Boie, Isis, 1822, p. 559.
—— *syrmatorphorus*, Gould, Birds of Australia, vol. vi. pl. 56.
Egretta alba, Swains. Class. of Birds, vol. ii. p. 354.
-

THERE can be no doubt that the *Herodias alba* has just claims to a place in the avifauna of the British Islands. Willughby and Latham both regarded it in this light; and more recent writers, from Yarrell to Mr. Stevenson, have recorded instances of its occurrence in various parts of our country. Sir William Jardine states that during the winter of 1840–41 several White Herons were killed both in England and Scotland, and mentions that one was seen several times upon the shores of the Solway on the English side, above Port Carlisle; and Mr. Harting, in his ‘Handbook of British Birds,’ enumerates nearly twenty instances of its capture in other localities.

As regards the habits and economy of the bird, there has of course been but little opportunity for becoming acquainted with them in this country, the individuals that stray here from the neighbouring continent being usually permitted but a brief sojourn, its attractive appearance soon causing it to become a victim to the gunner, and to be added to the rarities of some local museum or private collection.

Ornithologists are still divided in opinion as to the range of the *Herodias alba*, whether it be universally dispersed, or if it be confined to the older portion of the globe. Some would restrict its limits to Europe, Asia, and Africa, and separate the Australian and New-Zealand birds as distinct—a view which I formerly entertained when I gave a figure of the species in the sixth volume of my folio work on the birds of Australia, though I rescinded it in my Hand-book. As regards the individuals which have visited Britain, there is no doubt that they were examples of one and the same species, a species which frequents the whole of the southern portions of Europe, Africa, from north to south, Asia Minor, India, and China. All Indian sportsmen and collectors speak of it as a bird of great beauty and of striking appearance, particularly just prior to the breeding-season, when its plumes are in their highest state of development.

The following brief notes have been kindly forwarded to me by my correspondents, to which I have appended some passages which have from time to time been published respecting the Great Egret.

Mr. Rodd, of Penzance, informed me on the 21st of November, 1870, that on one of the Scilly Islands, called Hedge-rock, there were frequently Common Herons, and that among them was seen a large white bird of a similar size, that it had been seen there more than once, and, after straying away for some time, returned again to the same islet with the Common Herons; as this individual was, so far as Mr. Rodd knew, never shot, it must not be included among the birds of Scilly; for it may have been a Spoonbill, or a White Stork.

Charles Isham Strong, Esq., of Thorpe Hall, Peterborough, wrote on the 14th of November, 1872, to inform me that the Great White Heron in his collection was killed on Thorney Fen in Cambridgeshire (some ten miles distant), by a small farmer, who wished to have it preserved for himself, but, not liking the expense, sold it to a bird-stuffer at Peterborough, who resold it to Mr. Strong's father. This specimen, which has the ornamental plumes on the back, would appear to have been killed between the 1st of May and the 14th of July.

In Yarrell's ‘History of British Birds’ (vol. ii. p. 456) it is stated that Messrs. Sheppard and Whitear, in their ‘Catalogue of the Norfolk and Suffolk Birds,’ published in the fifteenth volume of the ‘Transactions of the Linnean Society,’ say:—“On the 3rd of October, 1834, in a walk on the banks of the river Stour, we observed a large White Heron cross over from the Suffolk to the Essex side of the river. It appeared to be pure white, and to stand up rather taller than some Common Herons which were feeding not far off. A similar bird was observed in the spring on the Oakley shores; and subsequently to our observation, one was seen on the banks of the river Orwell.” But the most valuable addition to our knowledge of the

occurrence of this species in England was supplied by Mr. Arthur Strickland, in a communication made to the Natural-History Section of the British Association, at its meeting at Newcastle in August 1838, as published in the seventh volume of the Reports. Mr. Strickland stated that "this bird had been unjustly excluded from the catalogue of occasional visitors to this country by late authors, as he could prove on unquestionable authority that it had been killed of late years in more cases than one. The first instance was twelve or thirteen years ago: a bird of this species was seen for some weeks about Hornsea Moor, in the East Riding of Yorkshire; it was some time after presented to the author, in whose collection it is at present, in perfect preservation. Another, in full summer plumage, was killed by a labourer in the fields of James Hall, Esq., of Scarbro, near Beverley, about three years ago, and is now in the possession of that gentleman. Another specimen of this bird is in the collection of Mr. Foljambe, of Osberton, with a label on the case stating it to have been killed near that place. A careful examination of these specimens will, Mr. Strickland has no doubt, prove that this bird is properly separated from the Large Egret of North America, which has been frequently placed in our collections for the British species. To these I may add a notice of one killed in Lincolnshire, but where the specimen is deposited I am not aware; and, lastly, Mr. Frederick Holme sent me the measurements of a specimen shot on the Isis, in Oxfordshire, in September 1833."

Yarrell goes on to state that this beautiful species was included in the Swedish fauna by Linnæus and Retzius, that it is an accidental visitor to Germany, France, Provence, Italy, Corsica, and Sardinia, and that it is common among the islands of the Grecian archipelago, Turkey, and Hungary. On the authority of H. E. Strickland, it frequents the salt marshes west of Smyrna; and Messrs. Dickson and Ross saw a few at Erzeroum, from the beginning of May till October. Mr. Stevenson, in his 'Birds of Norfolk,' doubts whether the Great White Heron can be fairly included in the Norfolk list; still he states that Mr. Gurney possesses a fine specimen, purchased by him of the late Mr. Thurtell when that gentleman's birds were sold, and, on the authority of Mr. Joseph Clarke, of Saffron Walden, that Mr. Miller once found the wings of a Great White Heron near Yarmouth.

Having shown that the Great White Egret possesses numerous just claims to be enumerated among our accidental visitors, I give an additional note or two by some friends who have seen this bird on the Continent, which, together with quotations from the writings of Jerdon and a few lines from my 'Birds of Australia,' will close my account of this species.

"In Sicily," says Mr. Howard Saunders, "especially around Catania and Syracuse, this fine species is by no means uncommon. In Eastern Spain it is of occasional occurrence; but further west it becomes extremely rare—so much so that only a single example came under my notice in the cotos de Doñana, and my men, who were well acquainted with the smaller species (*H. egretta*), were unable to give me any information respecting it. At Perpignan, just within the French frontier, Dr. Companyo has frequently obtained this species, and he assured me that it bred in the neighbouring marshes of Salces."

In Messrs. Elwes and Buckley's "List of the Birds of Turkey" (*Ibis*, 1870, vol. vi. p. 333), these gentlemen state that the *H. alba* is "very common in the marshes of Macedonia, where we have seen as many as fourteen together. The great size and snowy plumage of this Heron make it a very conspicuous object among the tall reeds or when flapping slowly above them. We cannot say whether it breeds here; but in Bulgaria, though not so numerous, it certainly does. An old male, which was shot in February, had the long plumes of the back, which fall off in summer, fully developed."

Jerdon states (*vide* 'Birds of India,' vol. iii. p. 744):—"The Large Egret is distributed throughout India to Ceylon, extending (if Gould's *Syrmatophorus* be rightly identified with this species) from Europe through most of Asia and Africa to Australia. It is of course abundant in the best-watered districts; but is found everywhere, feeding in rivers and tanks, and roosting on trees. It breeds in company on trees, often in or close to some village, making the usual nest of sticks, and laying three or four eggs of a bluish green colour."

Jerdon has remarked that Bonaparte created great confusion by separating the Egrets with yellow bills from those with black ones, not being aware that the colour of that organ changes with the season. During the period of nesting, the bill is more or less black; at other periods it is bright yellow.

Mr. Swinhoe speaks of the *Herodias alba* inhabiting the neighbourhood of Canton and other parts of China, although he questions the identity of the Chinese birds with those of Europe and India.

During my sojourn in Australia, I not unfrequently came upon a solitary individual of the Great White Egret, but in no instance did I obtain black-billed individuals.

The Plate represents both the summer and winter plumage, the figures being somewhat less than the natural size.



HERODIAS GARZETTA.

HERODIAS GARZETTA.

Little Egret.

Ardea garzetta, Linn. Syst. Nat., tom. i. p. 237.

— *nivea*, S. G. Gmel. Nov. Comm. Petrop., tom. xv. p. 458, tab. 17.

Herodias garzetta, Boie, Isis, 1822, p. 560.

Egretta garzetta, Swains. Class. of Birds, vol. ii. p. 354.

Erodias garzetta, Macgill. Man. Nat. Hist., Orn., vol. ii. p. 135.

Garzetta egretta, Bonap. Tabl. de l'Ordre des Hérons, Compt. Rend. de l'Acad. Sci., 1855, tom. xl. p. 772.

To examine a neatly made skin of this immaculate Heron, or to look upon a well-mounted specimen in a cabinet, is very pleasing; but to view the bird in all its beauty my readers must visit the Little Egret in one of its native homes—a swamp or a wet and gloomy morass; for there, among the green-tinted reeds and other aquatic plants, he will see it to the greatest advantage, and be astonished at the extreme elegance and lightness of the object before him, the spotless purity of its plumage, and the gracefulness of the flowing hair-like feathers with which its back is adorned. To view all this, however, the breeding-haunts of the species must be visited; for at all other times it is simply a plain white bird, the ornamental plumes being thrown off as soon as the duty of reproduction has been performed. It is in this latter state that wanderers from their proper homes occasionally visit us. Such visits are, indeed, “few and far between,” yet they have been paid sufficiently often to obtain for the bird a place in the avifauna of our islands. It also occasionally occurs in Germany, France (Provence), Switzerland, Genoa, Sardinia, Sicily, and the Grecian Archipelago; and the Russian naturalist Hohenacker includes it among the birds of the country lying between the Caspian and Black Seas; but in the warm countries of Italy, Turkey, and Spain this fairy-like species is met with much more frequently; and in the opposite country of Algeria, and in North Africa generally, it breeds in all situations suitable for the purpose. Beyond this, its range extends throughout the whole of Africa, from north to south, all over the Nile-district, Asia Minor, Persia, India, China, Japan, Java, and Australia. If it is not as numerous in all those countries as it is in Italy, Spain, and North Africa, it certainly occurs in and is considered by all ornithologists to form part of the avifauna of each country. It is not found in America, but is represented therein by a nearly allied species, *Herodias candidissima*.

Macgillivray states it has never been met with in Scotland; Thomson, that it is of extremely rare occurrence in Ireland; and the same may be said of England, very few instances of its being killed here being mentioned by any author, though, could we give credence to the assertion that one thousand were served up at the celebrated feast of Nevil, Bishop of York, in the reign of Edward IV., it would seem to have been very numerous at that date; but, with Dr. Fleming and Mr. Selby, I suspect the bird intended must have been the Lapwing (*Vanellus cristatus*), which then, as now, is abundant with us.

However this may be, the bird has been of very unfrequent occurrence in our islands during the present century, not more than seven or eight instances being on record in the works of Yarrell and others; to these I may, however, add another, for a knowledge of which I am indebted to Lord Hotham, who kindly obtained me the following particulars from the possessor of the specimen, James Hall, Esq., of Scarborough, Beverley, in Yorkshire:—“The Little Egret in my possession is a most beautiful specimen; it was killed by a labourer with a stick, in Ake Carr, near Beverley, about 1840, and was brought to me, tied up in a pocket-handkerchief, covered with black wet mud and blood, in which state it was sent to Mr. Reed, of Doncaster, and restored by him in a most marvellous manner.”

Numerous brief notices of the Little Egret are dispersed over the various volumes of that valuable ornithological record ‘The Ibis;’ and from these I shall now proceed to cull such extracts as may appear to be interesting.

Dr. H. Giglioli, in his Notes on the birds observed by him in the neighbourhood of Pisa in 1864, says *Herodias egretta* is very rare, and I have not seen it; but the smaller *H. garzetta* is abundant, and on the 15th of April I saw a flock of ten lazily flapping over the Arno in front of our house, their snow-white plumage making a fine contrast with the dark foliage which borders the river.”

At Malta, according to Mr. C. A. Wright, the Little Egret is common in spring and autumn, when large flocks are often seen passing in company with *Ardea purpurea*.

Mr. F. Du Cane Godman saw some examples in a collection at Terceira, one of the Azores, which were said to have been killed in that island.

Lord Lilford states that the Little Egret is very common in winter on the coasts of Epirus, in which province some few remain to breed; he observed “this species on the Bajona river, and the lake of Scutari, in Albania, in great numbers in August, 1857. Those which frequent the shores of the Bay of Butrinto

in winter, and spend the day in wading about the marshes, collect together regularly about sunset, and fly in a compact body to the jungles at the head of the lake, where they roost. They appeared to pursue exactly the same course every evening; and I used always to consider their appearance in a body a sign that it was time to take up my post for shooting Ducks, in a small marshy pool between the proper right of the Butrinto river and the rocks which shut in the valley to the north. The Egrets almost invariably flew over this pool from west to east, and generally preceded the first flight of Ducks by about ten minutes."

The Rev. H. B. Tristram, in his "Notes on the Ornithology of North Africa," states that the Little White Egret is "universally distributed in small numbers wherever a suitable locality exists, and frequents familiarly the gardens and ditches of the oases. It breeds in society on the lake Tetzara, and, doubtless, in more southern marshes also." Mr. C. F. Tyrerwhit Drake remarks that a few may usually be seen in winter at Martine, in Eastern Morocco.

Mr. J. H. Gurney says that the bird frequents the Bay of Natal, in South-eastern Africa, but is much more numerous about the swamps of the Transvaal; and Captain Sperling, R.N., that it occurs at Mozambique and Zanzibar, and probably on the intermediate coast of the Ethiopian Region of Africa.

"Not even Lac Halloula, in Algeria," says Mr. Tristram, in his "Notes on the Ornithology of Palestine," "can rival the marshes of Huleh (Meroni) as a paradise for Herons, with this advantage, that the breeding-places are wholly inaccessible to man. That treacherous swamp, extending for seven miles, with its deadly malaria, affords a secure haven, under its waving tufts of papyrus, for any number of Heronries." Among the many species of the *Ardeidæ* there met with by him, the Little Egret was common, but scattered, and not very sociable.

Capt. Beavan includes it in the avifauna of the Andaman Islands, the truth of which is confirmed by Col. Tytler, who remarks, "I have had this species alive and identified it."

According to Dr. Jerdon the Little Egret is very abundant in India; and there it always nests and lays its four or five blue-green eggs in trees—a statement confirmed by Capt. Beavan.

Mr. Swinhoe states "it is common at Amoy all the year round, and builds in heronries in large banyan trees. It is also abundant at Hongkong, Macao, and Canton; and in Formosa it is a very common resident species, associating (especially in summer) in large flocks, and breeding in company in bamboo and other plantations. I procured a fine male, in full plumage, on the 14th of March."

Dr. Schlegel informs us that the specimens killed in Japan are precisely like those from the other countries inhabited by the bird.

With regard to Australia, I have three or four specimens from that country, which appear to be quite identical with European examples; and C. Coxen, Esq., of Brisbane, has sent me an excellent photograph of the bird in its finest state of plumage: it is a species not yet figured in my folio work on the birds of that country, though noticed at p. 305 of the Handbook.

Meyer says:—"The localities usually resorted to by the Little Egret are the swampy banks of rivers and lakes where the flags and reeds are of low growth, or the vicinity of woods and large trees (in which it roosts at night). Its flight is rather quicker than that of the larger species; but in windy weather it is very helpless and is obliged to skim low over the bushes and reeds from one piece of water to another. But when the weather is fine, it may be seen, if startled by intrusion of any kind, circling high up in the air, as if surveying the neighbourhood before it finally decides upon its course." It is said that it may be partially domesticated if taken young, and that its habits and manners are then gentle and harmless: it is also stated that its ornamental plumes were formerly used to decorate the helmets of warriors, as they still are by the Persians and Turks.

"This little Heron," says Bailly, in his 'Ornithologie de la Savoie,' "is occasionally killed on the borders of the Rhone, the Iser, the lakes of Bourget, and the Marches and their very marshy environs. It generally appears singly or in small companies of from two to five, rarely in greater numbers, at two periods of the year—in April or the first half of May, when it is clothed in its beautiful wedding-garment, and again towards the end of July or the beginning of August, with its autumn dress more or less complete. About the same time it appears on the lakes and marshes of Switzerland, but rarely visits the interior of that country. Being not very wild, it readily admits of approach, whether seeking its food among reeds and grasses, or perched on the trunk of a tree or on a stone. During its stay with us it feeds upon the spawn of frogs and fish, young frogs, fish, worms, leeches, and small reptiles. It nests in Sardinia and Sicily, selecting for that purpose damp and marshy places suited to the habits of wading and aquatic birds, several couples breeding in company. The eggs are from three to five in number, pointed at both ends, and of a very pale greenish blue, without spots."

The Plate represents the bird a trifle less than the natural size, with reduced figures in the distance.

BUBULCUS RUSSATUS.

Buff-backed Heron.

Ardea russata, Wagl. Syst. Av., *Ardea*, sp. 12.

——— *æquinotialis*, Mont. Trans. Linn. Soc., vol. ix. p. 197.

——— *bubulcus*, Savig. Descr. de l'Égypte, Zool., tom. i. p. 298, tab. 8. fig. 1.

——— *Veranyi*, Roux, Orn. Prov., tom. ii. p. 316.

Buphus russatus, Boie, Isis, 1826, p. 356.

Erodius russatus, Macgill. Man. of Orn., vol. ii. p. 135.

Egretta russata, Macgill. Hist. of Brit. Birds, vol. iv. p. 474.

Bubulcus ibis, Bonap. Tab. Syn. des Hér., Compt. Rend. de l'Acad. Sci., tom. xl. p. 722.

Herodias bubulcus, Allen, in Ibis, 1863, p. 32.

DEVONSHIRE is the only English county that can claim this bird as forming part of its avifauna ; and that claim rests upon the occurrence of the single specimen shot by Mr. F. Cornish, at South Allington, in the parish of Chivelstone, and presented by Mr. Nicholas Luscombe, of Kingsbridge, to the celebrated Colonel Montagu, by whom the circumstance was communicated to the Linnean Society on the 5th of May, 1807, and recorded in the ninth volume of their 'Transactions,' as above quoted.

"This elegant little species of Heron," says Col. Montagu, "which was shot in the southern promontory of Devon, very near the coast between the Start and the Prawl, in the latter end of October 1805, had been for several days in the same field, attending some cows and picking up the insects which were found in its stomach. It was by no means shy, and was fired at a second time before it was secured." This specimen is still preserved in the British Museum.

Beyond the above meagre notice, nothing had been placed on record respecting this beautiful species in any ornithological work ; but, thanks to the labours of the modern observers who have communicated their researches to 'The Ibis,' I am able to furnish a number of interesting details as to its habits, manners, &c.

The native country of the Buff-backed Heron is Africa, where it is more or less abundant from north to south, but is especially numerous in the basin of the Nile ; it is also met with in certain parts of Persia and Asia Minor, and less frequently in Greece, Turkey, Dalmatia, Italy, Spain, and Portugal. In India and other oriental countries, its place is occupied by an allied species, the *Bubulcus coromandus*, with which it has been confounded, but which, says Dr. Jerdon, differs from the present bird by its longer tarsi, the more vivid hue and greater extent of the golden yellow feathering, and the less denuded orbits ; and Mr. Swinhoe, who also regards them as distinct, remarks :—"The eastern bird can, even in its white plumage, be distinguished by the greater length of its bill, which is generally half an inch longer, and by its more naked tibiae. In the summer plumage the distinctness is more marked. The African has the crown of its head and its under neck only buff-colour, tinged with a vinaceous hue ; in the other the entire head, neck, and breast are clothed with orange-coloured feathers, those of the breast only having a slight vinaceous tinge ; the centre of the back is also orange, but the long loose dorsal plumes are light vinaceous pink. The specific term *russata* has been applied by Temminck to the African bird ; *coromanda* is an old name for the eastern one."

In Egypt, the Buff-backed Heron frequents the banks of the Nile, which, however, it often leaves to follow the cattle and the ploughman, just as the Rooks and Gulls are wont to do in England. The Arabs, who appear to know less of the Ibis than we do in Europe, affect to consider the present bird to be that species, and frequently direct the attention of travellers to it as the sacred bird.

I now proceed to give the observations of some of the writers in 'The Ibis' alluded to above, and, in justice to them, in their own words.

The Buff-backed Heron, says Mr. Taylor, is "excessively numerous all through Egypt, and very tame and familiar. It especially affects the society of cattle. I have often seen it standing on the backs of buffaloes and cows. From this propensity to fraternize with cattle, it is called 'Cow-Bird' by the English. I never saw an example with the elongated buffy plumes on the back, which are considered to be characteristic of the species. All that I met with had the entire plumage pure white, except the crown of the head, which was buff. I conclude from this that the elongated dorsal plumes are peculiar to the breeding-season, as I cannot believe that the very numerous specimens which came under my observation were all in immature plumage. This bird does duty on the Nile as the *Ibis*, being generally pointed out to travellers by dragoons, &c., as the real *Ibis religiosa*."—*Ibis*, 1859, p. 50.

"Perhaps the most conspicuous bird that catches the eye of the traveller in Egypt," says Mr. Stafford

Allen, "is the Buff-backed Heron in its winter plumage of pure white, which is to be met with in flocks of from four or five to thirty, distributed all over the country. These birds especially affect the society of cattle, and may be seen feeding among the legs of the cows and buffaloes in the most fearless manner, like Starlings in a flock of sheep, frequently perching on the backs of the lazy animals in the same way. The Arab name 'Abou Gerdán' (father of flocks), the French 'le Heron Garde-bœuf,' and the Latin appellation '*Bubulcus*,' all have reference to this marked peculiarity.

"Contrary to the usual custom of the Herons and Egrets, most of which are piscivorous, the 'Buff-backed' does not feed upon fish, but upon the various kinds of insects, particularly grasshoppers, which are so abundant in the rank herbage produced by the peculiar system of irrigation which obtains amongst the Arabs. They are consequently seldom seen near the water's edge. About dusk they retire to the trees to roost; and though I have occasionally seen them in the Date-palms, they generally choose the Sycamore, or wild Fig-tree, for that purpose.

"It is frequently asserted that the Arabs consider this bird *sacred*, and that killing one is looked upon as a serious offence; but I believe this is not the case, at least, not in a *religious* sense. I have sometimes been reproached for shooting a specimen, much in the same way that we should speak to any one who killed a robin; and I think that this more correctly represents the feeling on the point, although it is a hopeless task to try to make an Arab understand any thing of an abstract nature.

"During the winter the plumage of the Buff-backed Heron is of a creamy-white colour, with a small reddish-buff patch on the top of the head; the legs and feet black. About the commencement of April longer feathers of a pale buff begin to appear on the back, neck, and crest; these continue to grow in length and deepen in colour until the end of May, by which time the summer dress is complete. At the same time the legs and feet change to a pale yellowish olive. The bill at all times is of an ochraceous yellow; but the irides vary in different specimens (probably according to age) from pale to bright yellow; the lores are greenish. The male is generally rather larger than the female, and has the long feathers a little more developed.

"We did not meet with the nests of the Buff-backed Heron; and it seems probable that they are late breeders, as, in those killed about the end of April, the ovaries did not appear enlarged."—*Ibis*, 1863, p. 32.

"Though local," says Mr. Salvin, "the Buff-backed Heron occurs abundantly where it is found in the Eastern Atlas. I first met with it near Bizerta, and afterwards at Zana, where it was numerous, a large flock frequenting the marsh. We did not obtain any of their eggs; and, to all appearance, the birds had not entered upon their domestic duties when we left their haunts."—*Ibis*, 1859, p. 358.

Dr. Leith Adams tells us that "in Egypt and Nubia the bird feeds chiefly on frogs, of which it devours large numbers. The call resembles the 'bleat' of sheep."—*Ibis*, 1864, p. 31.

The Rev. H. B. Tristram states that the bird is very common throughout the year about all the oases of North Africa. Mr. C. F. Tyrwhit Drake that it is equally numerous in Tangier and Eastern Morocco.

"The only known breeding-places of the Buff-backed Heron in Northern Africa," says the Rev. H. B. Tristram, "are Lake Halloula and a lake between Bona and Tunis. Here the Buff-backed, Squacco, and Night Herons, and the Glossy Ibis all breed in communities—at Lake Halloula this year probably for the last time, as the French government has begun to drain this paradise of Herons, employing vast numbers of soldiers, and in the middle of June last the waters were already reduced by seven feet. It is remarkable that though there are trees and rising ground on the north of the lake, yet none of these birds frequent that side, the favourite haunts of the various *Salicariæ*, but all remain on the south side, sheltered in a pestilential morass by a jungle of reeds, and all deposit their eggs on nests heaped on the ground. The Buff-backed Heron builds a little further back from the water in general than the Squacco, but neither of them elevates its nest more than two feet from the swamp."

In some notes on the birds of the Colony of Natal, forwarded to Mr. J. H. Gurney by Mr. Thomas Ayres, that gentleman states:—"The flats near the mouth of the river Umlaas are the only localities where I have seen this species. They are gregarious in their habits, roosting by night amongst the branches of the trees which overhang the small lakes that are plentiful in that part of the country. They appear to feed entirely on ticks (*Acari*), which they pick from the cattle as they are feeding, walking alongside of them, and every now and then taking one off. They are wary birds, and not easy of approach." Mr. Ayres also states that "it is very abundant in the Transvaal."—*Ibis*, 1863, p. 330, &c.

The sexes undergo the same changes, and are therefore alike at all times.

The foremost figure in the Plate, which is about the natural size, represents the bird in its full summer garb; the reduced figures represent two others in the same state, and one in winter plumage.



BUPHUS COMATUS.

Squacco Heron.

- Ardea comata*, Pall. Reise, tom. ii. p. 715.
—— *ralloides*, Scop. Ann. Hist. Nat., tom. i. no. 121.
—— *squaiotta*, *castanea*, et *erythropus*, Gmel. edit. Linn. Syst. Nat., tom. i. pp. 633, 634.
—— *audax*, La Peyr. Neue Schwed. Abh., tom. iii. p. 306.
—— *Marsigli*, Lepechin, Nov. Comm. Petrop., tom. xiv. p. 502, tab. 14. fig. 1.
—— *pumila*, Lepechin, ibid., p. 502.
Ardeola ralloides, Boie, Isis, 1822, p. 559.
Buphus comatus, Boie, Isis, 1826, p. 356.
—— *castaneus* et *ralloides*, Brehm, Vög. Deutschl. p. 589.
—— *Illyricus*, Brehm, ib., p. 590, tab. 31. fig. 1.
Egretta comata, Swains. Class. of Birds, vol. ii. p. 354.
Botaurus comatus, Macgill. Man. of Nat. Hist., Orn., vol. ii. p. 125.
Cancrophagus ralloides (Boie), Kaup, Natürl. Syst., p. 42.
-

ON the banks of Old Father Thames, within twenty-five miles of London, the pleasure-seeker may gratify his taste by land or by water, and the lover of nature may revel in the varied character of the scenery. Such woods, waters, and meads as those of Taplow, Cliveden, and Hedsor, my own favourite resorts for observation, form such an elysium for the naturalist as rarely occurs. I was once standing at the door of the celebrated inn of this charming locality, when a person in the garb of a gentleman hurried out and eagerly inquired for the next train to London, adding that one hour at Temple Bar was worth twelve months' life in the country. For myself I would not care if I never saw the old Temple Gate again, and would at any time leave the hurried Babel of London to hear the song of the Thrush or witness the skipping of the Bleak before the huge Trout of our queen of rivers; but he and I, with hundreds of others, each having his especial liking, are essential to make up a world. Among birds this diversity is shown in another manner; for their nature, and not their tastes, prompts each kind to affect the especial locality for which it was designed—some the mountain-tops, others the forest, the marsh, and the sea-shore. They are equally diversified in their colours and adornments,—those of the tropics being dressed in modest as well as brilliant hues, those of the snow-clad mountain in spotless as well as glittering tints, those of the stagnant waters being adorned with hues as beautiful as any of the others, while those of the seas are not wanting in variety of colouring.

It is in the swamp, in the stagnant marsh, in the still waters, where the newt wriggles in the warm shallows, and the frog croaks in the rush-beds, where the buckbean flourishes, the flowering rush raises its stately head, and the forget-me-not carpets the margin, that the beautiful bird figured in the accompanying Plate loves to dwell; for there it finds both security and an abundant supply of food. It is in such situations, in Southern Europe, that it is by no means uncommon; and it has several times been killed in the British islands; to us, however, it is only a casual visitor, and it must therefore be regarded as one of the rarities of our avifauna.

Although most of the English counties, from Cornwall to the border, have from time to time been favoured with its presence, there is none in which it has been more frequently seen than in those of Norfolk and Suffolk. Speaking of Cornish localities in which it has occurred, Mr. Rodd enumerates St. Hilary, St. Levan, Sennen, Trereife, Madron, and Scilly, and adds that the examples obtained were generally in immature plumage, but some of them had the occipital and dorsal plumes partly developed. Mr. R. C. Musgrave informs me that a specimen in his father's, Sir George Musgrave's, possession was shot by one of his gamekeepers in June 1845 while perched on a tree at Lazonby, in Cumberland.

Mr. Stevenson, to whom I am indebted for so many notes on the birds of Norfolk, writes me word that the first recorded instance of its occurrence in that county is in Messrs. Paget's 'Sketch of the Natural History of Yarmouth,' in which it is stated that "one was caught in a bow-net hanging out to dry, by Ormesby Broad in July 1820." In May 1831 another was shot at Oulton, near Lowestoft, in Suffolk, and is now in the collection of Mr. J. H. Gurney, at Catton. A third, killed at Ormesby or Filby, two adjoining Broad, on the 12th of June 1834, is described in Dr. Hooker's MS. as a "singularly beautiful specimen," and was purchased by Captain Chawner of Alton, Hants, who was at that time collecting at Yarmouth. This bird is likewise referred to in some MS. notes of the late Mr. Lombe, whose splendid collection of British Birds is still in the possession of his daughter, Mrs. E. P. Clarke of Wymondham. In these notes, which were made in Mr. Lombe's copy of "Bewick," I also find a record of a fourth example,

killed at Burlingham, in Norfolk; but no date is given, nor is this bird mentioned by any local author. Singularly enough, since 1834, this Heron does not appear to have been noticed, either in Norfolk or Suffolk, until the 26th of June 1863, when a magnificent adult male, now in my possession, was shot on Surlingham Broad, near Norwich. The marshman who shot it informed me afterwards that it appeared extremely tame, flying round and alighting on the marshy borders of the stream, and, though 'mobbed' by the rooks, was by no means alarmed at the approach of either man or boat."

Mr. John Rocke, of Clungunford House, Aston-on-Clure, informs me that a very fine specimen was killed, he believes, in 1842, under the Brown Clee Hill at Brockleton in Shropshire, by the late Mr. John Patrick, and passed into the possession of the late G. H. Dausey, Esq., of Ludlow.

According to Dr. Leith Adams, it is generally distributed over the lakes and *geels* of the Punjab.

Dr. Henry Giglioli mentions, in his notes on the birds observed by him at Pisa and in its neighbourhood in 1864, that "the beautiful Squacco Heron abounds in May, and I have seen flocks of it on the fenny flats between this place and Leghorn; it prefers the places where cattle are grazing." ('Ibis,' 1865.)

Bailly, in his 'Ornithologie de la Savoie,' states that the Squacco Heron "annually visits the central regions of France, and occasionally occurs in the north and in Belgium. Individuals of all ages regularly appear in Switzerland and Savoy, the young birds at the end of the summer or during the first days of autumn, and the adults in spring, about April or May. Like the purple Heron and the small Egret, it evinces but little shyness, and, being scarcely disturbed at the sight of man, is easily approached; when alarmed by his proximity, it merely removes to a short distance and again settles on the ground, a tree, or a stump. If surprised in a thicket, it endeavours to elude observation by crouching down, drawing in its neck, and remaining still; but if it perceives itself detected, flies away and hides at a greater distance."

The following are the other principal localities in which this interesting bird has been observed:—in the marsh of Zana in the Eastern Atlas, by Mr. Salvin; in the moist meadows round Jaffa in Southern Palestine, the Rev. H. B. Tristram; in large flocks in September in the marshes on the Red Sea, near Bas Belul, and Asab Bay, between 13° and 14° north latitude, by Dr. Heuglin; and Dr. Kirk, in his notes on the Zambesi region, states that it is there commonly seen in pairs, feeding in marshes and shallow water.

Mr. J. H. Gurney states that it inhabits but is not common in the colony of Natal, that it there frequents the lagoons on the coast and occasionally strays inland; and remarks that it appears to feed on insects, that its flight is heavy, and that against a strong wind it is able to make but little headway.

It must not be supposed that the Squacco Heron is always adorned with the gay and beautiful dress in which I have figured it, or that the young birds during the first two years of their existence are similarly clothed; for such is not the case; the lengthened plumes which spring from the head in my figure are, I believe, seasonal, being merely assumed just prior to, and worn during, the breeding-season, after which they are thrown off. The young birds are much darker, and have the back- and neck-feathers short and mottled; but the sexes when mature are very similar, like the Bittern, to which this bird is nearly allied.

The nest of the Squacco Heron is a slight structure, very like that of the Bittern, and is placed in similar situations among the reeds. The eggs are four or five in number, of a clear bluish green, without markings of any kind.

As its trivial French name of "Héron Crabier" implies, it is stated to be a great devourer of crabs; it also feeds upon most of the inhabitants of the marshes, from an insect to a frog, to which fish and doubtless young birds and small feeble quadrupeds are added.

It is said to be fond of associating with cattle and other animals, to sometimes perch on trees like the Mangrove Bitterns of Australia, and to be easily tamed if brought up from the nest.

The following is a description of the plumage during the pairing-season:—

The centre of the lengthened feathers of the head is yellow; and the prolonged occipital plumes are yellow at the base, gradually passing into white on their apical half, and have a broad border of deep black on each side throughout their entire length; chin and centre of the upper part of the throat white; sides of the neck, lower part of the throat, and the pendent feathers of the breast rich ochre-yellow, with a brown streak down those on each side of the posterior part of the neck and a few of those of the centre of the breast; all the upper surface of the body rich ochre-yellow, with a vinous wash on the centre of the back; wings, tail, and under surface white; irides yellow; eye-orbits and base of both mandibles green; middle portion of the bill light leaden blue, the tip black; legs and feet pale ochre-yellow; claws black.

The figure is of the natural size. The plant in the foreground is the Forget-me-not (*Myosotis palustris*).



NYCTICORAX GRISEUS.

NYCTICORAX GRISEUS.

Night-Heron.

- Ardea nycticorax*, Linn. Syst. Nat., tom. i. p. 235.
—— *grisea*, Linn. Syst. Nat., tom. i. p. 239.
Nycticorax europæus, Steph. Cont. of Shaw's Gen. Zool., vol. xi. pt. ii. p. 609, pl. 47.
—— *nycticorax*, Boie, Isis, 1822, p. 560.
—— *Gardeni*, Bonap. Geog. and Comp. List of Birds of Eur. and N. Am., p. 48.
—— *ardeola*, Temm. Man. d'Orn., tom. iv. p. 384.
—— *griseus*, G. R. Gray, Gen. of Birds, vol. iii. p. 558, *Nycticorax*, sp. 1.
Nyctiardea europæa, Swains. Class. of Birds, vol. ii. p. 355.
Ardea (Scotæus) nycticorax, Keys. et Blas. Wirbelth. Eur., p. 80.
Nyctirodus nycticorax, Macgill. Man. of Nat. Hist., Orn., vol. ii. p. 127.
-

ABOUT six or seven species of the genus *Nycticorax* are now known, one or other of which inhabits nearly every portion of the globe. Australia is frequented by *Nycticorax caledonicus*, Manilla by *N. manillensis*, Borneo by *N. crassirostris*, Chili and the Malouine Islands by *N. obscurus*, the West Indies and South America by *N. violacea*, and North America by the last-named species and *N. Gardeni*; while the bird here figured is distributed over Europe, the greater part of Africa, India, and China. In England the *Nycticorax griseus* is only an accidental visitor, and does not breed with us, for the simple reason that every individual which makes its appearance is ruthlessly shot before it has time to await the coming of a mate. On the continent of Europe the bird is more common, and, being less persecuted, breeds and rears its young in many of the southern countries. Although I have stated that its appearance in England is accidental, repeated instances of its occurrence have come under my notice ever since I was a boy, when a specimen which had been killed in Windsor Great Park was sent to me in the flesh. Lord Lilford has seen two or three in a season on his estate at Oundle, in Northamptonshire; and in May 1858 the late Earl of Craven presented me with a splendid male, which his keeper had shot on the 6th of that month at his seat, Coombe Abbey, in Warwickshire. In Ireland it is of very rare occurrence; and up to the year 1852 very few had been met with in Scotland.

In the daytime, the Night-Heron is a heavy, sleepy bird, and is usually seen perched on a branch of a tree skirting a forest, whence it sallies forth on the approach of evening, and passes the night in the marsh, by the river-side, or on the border of a large pond, in search of frogs, newts, and other aquatic animals, not refusing insects and mollusks on the one hand or the fry of fishes and shrew-mice on the other. The sexes are alike in colour and in the decoration of the nape, whence spring two or three lengthened white plumes which fall gracefully over the back. The young, on the contrary, are reddish brown, spotted with white, a style of plumage which constantly varies until the bearer attains the adult livery—a period of at least two years. It is this diversity in the colouring of the young and old Night-Herons which has so greatly increased the synonymy of the species—a circumstance much to be regretted, since its earlier name of *grisea* is very inappropriate; but the modern law of nomenclature, which requires the adoption of the earliest specific appellation, does not admit of a more fitting term being employed.

Both Lord Lilford and Mr. Howard Saunders inform me that the Night-Heron is numerous in spring and summer in the wooded marshes on the Guadalquivir, below Seville, and that it breeds there in colonies; in one thicket Mr. Saunders saw nests not more than from five to fifteen feet from the ground.

Bailly, speaking of the bird in Savoy, says:—"It is rarely met with in this country; the few that do visit us arrive in April and May, and the bird is seldom to be seen at any other season. It breeds in several of the southern regions of France, where it builds its nests in marshes among reeds and rushes, upon a stump or willow standing in the water. The eggs are three or four in number, of a pale greenish blue. Like the Herons and Bitterns, these birds arrive at night, at the end of the evening twilight, and very early in the morning, generally one at a time, but sometimes in couples (male and female). Then occasionally may be heard their lugubrious croaking, which, being uttered at night, has obtained for the bird the name of *Nycticorax* (or Night-Raven), given to it by Linnæus. During the daytime it conceals itself in the reeds or shrubs, or perches on the tallest trees, remaining the greater part of the day without moving. After sunset it leaves its retreat, and seeks for food or resumes its journey. It is neither wild nor wary, and is not easily frightened, but shrinks, as it were, into itself and remains in a state of immobility until the intruder has passed. It may be attracted by imitating its cry, which is very similar to that of the Common Crow, *moak*, *moak*. Like the Bittern, it is dangerous when wounded, as it defends itself vigorously."

By far the most interesting account of the bird and its habits is from the pen of Mr. Swinhoe; and I take the liberty of transcribing it from the pages of 'The Ibis' for 1861 and 1863, where he says:—"This is the sacred bird of the great Honam Temple, Canton, in the courtyard in front of which are some venerable banyans and a few towering cotton-trees (*Bombax malabaricum*). On the higher branches of the former the small flat wicker nests of the Night-Heron may be seen in all directions, some only a foot or so from others; and the croaking and flapping and fighting that goes on overhead bears some distant resemblance to the crowded deck of an emigrant steamer on first encountering a turbid sea. The granite slabs that form the pavement beneath these trees are so bedaubed with the droppings of old and young, that permission to scrape them clean daily might prove a fine speculation for the guano-collector. The birds, from the protection afforded them, are remarkably tame, and we could stand beneath the trees and watch them without their evincing the slightest fear. This was in April. Some might be seen sitting on their nests, with their long legs bent under them, the weight of their bodies resting for the most part on the tarsal joint—others standing on a single leg close by, with shortened neck, the beak and head occasionally moving partially round as on a pivot—others flapping to and fro, ruffling up their head-gear and occasionally sparring together. In their various movements the dark-green black of the head and back, with the thin white occipital streamers flowing and quivering over it, gave a quaint though not ungainly look to the birds. From some of the nests we heard a subdued chattering, like the cry of young; and it was to feed these hungry mouths that the parents were constantly leaving the trees to seek for food at all times of the day, while others were returning with supplies. As the sun set they became still more active. While I sat watching them from a neighbouring roof-top in the evening, numbers emerged from the inky darkness and, one by one, settled on the stark, bare, out-standing arms of the cotton-tree. After resting for a little time like gaunt spectres on the tree-top, off they went, one after the other, with a "*kwa*," seldom more than two in the same direction. As darkness set in, many returned, and the noise and hubbub from the trees rose to a fearful pitch. Until night hid them from my view, I could see the old birds going and coming, and hear the clamour of the young. What kind of nocturnal slumbers the priests enjoyed in the temple below I never took the trouble to inquire, though I have little doubt that, from constant use, the noise of these *croakers* has become quite essential to their good night's rest."

"I fully expected to find in Formosa the Red-backed Night-Heron of the Philippines, and was annoyed to discover that it was still our European friend that prevailed. This bird was building abundantly in the fine old banyans in the city of Taiwanfoo. In summer, when the young require incessant feeding, it is not unusual to meet the Night-Heron abroad during the day searching for food; but at other seasons it is strictly a night-bird, roosting in daylight in company, among osiers or bamboos, on the banks of inland waters, and rambling about in the twilight and darkness of night in search of food. In the darkest nights their loud *kwa* may be heard as they wing their way overhead. The Chinese call them *Am-kong-cheow*, or bird of darkness, and look upon them with superstitious dread. They are thought to have some connexion with evil spirits; and as it is the Chinese custom to propitiate the evil demons, that they may not play any of their mad pranks on humanity, so they give protection to these their birds. In large cities superstition is laughed down, and not so prevalent; we therefore, in the Formosan capital, were not thought to commit any great sin in disturbing the ill-hallowed bird; but among the country-people at Tamsuy, the villagers for miles round would flock to us when we were out with guns, and beg us not to disturb a colony of Night-Herons that had commenced nesting-operations in a fine bamboo-grove. This plantation of tall bamboos, mixed occasionally with longans and other trees, was on a hemp-farm of four acres, which it entirely encircled. The flock of Night-Herons, about two hundred or more in number, showed themselves about this wood for the first time in March. For a fortnight they merely made it their roosting-site for the day. In April all was excitement, fighting, and building; and towards the middle of the month many of the birds were laying. In the first few days of April a large colony of *Herodias garzetta* came to the same trees; and about the middle of the month a large flock of *Buphus coromandus*. At first the confusion was very great, the flocks of the several species coming into constant collision; but before the end of the month all seemed amicably arranged, and you would often see on the same tree several nests of the three distinct Herons, the females sitting and the males standing by to protect. This large mingled heronry was a most interesting sight; and many times on a fine evening have I taken boat and crossed over to the Heron-farm to view it. A small wood of large trees stood close by the huts, and these a party of *Ardea cinerea* had made their home; and here and there among the bamboos you could see a few *Herodias eulophotes*. Thus within the precincts of these few acres one had an opportunity of observing the habits of no less than five species of Herons. I have seen many heronries in different parts of China and Formosa, but none so large or so excitingly interesting as the one on the Tamsuy river. It was a sight not easily to be forgotten."

The Plate represents an adult and a young bird, about two-thirds the natural size.



BOTAURUS STELLARIS.

Bittern.

Ardea stellaris, Linn. Syst. Nat., tom. i. p. 239.

Botaurus, Briss. Orn., tom. v. p. 444, tab. 37. fig. 1.

——— *stellaris*, Steph. Cont. of Shaw's Gen. Zool., vol. xi. p. 593, pl. 45.

———, *lacustris*, et *arundinaceus*, Brehm, Handb. der Naturg. Vög. Deutschl. pp. 595, 596.

Butor stellaris, Swains. Class. of Birds, vol. ii. p. 354.

Ardea (Botaurus) stellaris, Schrenck, Vög. des Amurlandes, p. 453.

THAT our planet has undergone great physical changes, and that these changes are still progressing, is certain; but they are not all due to natural agencies, for the minor operations of man have played their part in effecting them. The clearing of forests, the draining of marshes, and the damming back of encroaching seas have a tendency to alter the condition of every country where such operations are carried on; and in a little island like England these tendencies are perhaps more marked than elsewhere, the result being a great disturbance of our natural productions, both animal and vegetable. Seven hundred years ago, when Robin Hood bent his bow, and sent his bolt after the stag, the physical condition of England was very different to what it is at the present moment: the forests of Nottinghamshire have become arable land, the barren chaces fields of waving corn, and the great meres of Cambridge and Huntingdonshire luxuriant with cereals; where so lately as fifty years ago the boatman threaded his way, roads leading to farmsteads and stately mansions are now to be found, and the fire-king speeds on his course through districts which were formerly a waste of waters. Before these changes took place, the greater part of our country was in a state of nature, and the Bittern was common; and no bird was more secure from molestation, for it dwelt in fastnesses which few enemies could approach, situated as they were in the midst of many square miles of waving reeds or forests of tangled herbage. Time was when the falconer made it an object of pursuit; but he could only assail those individuals which had taken up their quarters in the neighbourhood of sedgy ponds and brooks and in the moist part of open moors, such as were then more or less numerous in every county. Few of such situations were then without the Bittern. Now the bird is so scarce that a whole summer may pass away without one being seen; if any still remain, the reedy broads of Norfolk and the unreclaimed parts of Lincolnshire are the only localities in which they may be found. There, if undisturbed, they would continue to breed; and were the proprietors of such districts to forbid the destruction of the Bittern and others of our indigenous marsh-birds, they would effect far more good than by attempting the introduction of exotic animals, which, in my opinion, will never be rewarded with much success. Pray, then, let us still see this weird bird in some part of England; let there still be a marsh left where the "will-o'-the-wisp" may exercise his delusive powers, and the boom of the Bittern be heard; for both fever and ague would the ornithologist risk to see the bird in a state of nature. What are the habits and economy of this dweller among reedy and sloppy places, this inhabitant of misty and aguish marshes? They are strictly nocturnal; for, disliking the sunshine, the Bittern passes whole days in a secure nook among the rushes, or beside some sheltered pool, and at nightfall stealthily stalks about in search of frogs and insects, or patiently stands motionless in the shallows, watching for a fish, for the passing of a water-rail, a rat, or a shrew, all of which it captures by a dexterous, quiet, indescribable movement of its neck, followed by a sudden and unerring dart of its lengthened bill.

To give a *résumé* of the numerous instances recorded in which this bird has been observed or shot, even during the last few years, would fill a volume. Selby, Macgillivray, Thompson, and Yarrell, have all given copious details on this point, the sum and substance of which is, that the Bittern has, at one time or other, been found in every county during the last twenty years; that in one winter numbers have been obtained, while, on the other hand, a succession of years have elapsed during which it has scarcely been seen; and that when it is numerous we may infer that the individuals are not native-bred birds, but have come hither from the neighbouring continent, in search of a more genial climate. That some of them would remain here and breed, there can be no doubt, were it not for the unfriendly reception all such visitants now meet with. The winter of 1863--64 was a happy one for the gunner, and an equally unfortunate one for the Bittern; for examples were then killed in every part of the country, from the extreme west of Cornwall to the northernmost part of Scotland. Years may elapse before such numbers will appear again; for the slaughter of so many individuals must tend to diminish the race; and although great nurseries still exist in Belgium and Holland, the time is not far distant when in those countries, as in our own, the Bittern will be a comparatively rare bird. But there are many large districts in Eastern Europe where it reigns paramount among the reed-loving birds; and until these are brought under cultivation, it will still be abundant.

Independently of the European localities above mentioned, the Bittern booms forth its hollow sound in all the countries of the Old World north of the equator, wherever suitable situations occur; in India it is as common as it is with us; it has also been received from China and Japan; and that it enjoys a still wider range is proved by examples from other parts of Asia and from Africa. But it has not yet been discovered in America, its place in that country being occupied by an allied species, the *Botaurus lentiginosus*.

“The habits of the Bittern,” says Mr. Selby, “are solitary, and, being a night-feeding bird, it remains quiet during the day, concealed in the reeds and long herbage of its marshy haunts. In this state it generally sits closely squatted, with the neck bent so that the head rests between the shoulders; and when thus dosing and digesting the meal of the previous night, it will frequently allow itself to be nearly trodden upon before it will take wing or endeavour to escape; and even when roused, it seldom flies to any considerable distance. When wounded or surprised and unable to escape, it defends itself with vigour; and, as it always aims at the eyes of its enemy with its strong and sharp-pointed bill, a considerable degree of caution must be used in capturing it. When attacked by a dog, it throws itself upon its back, like the Owls and other raptorial birds, and strikes with its claws as well as with its bill; and in this manner it will keep the most resolute dog at bay, as the infliction of a stroke or two of the latter spear-like weapon is commonly sufficient to keep him afterwards at a respectful distance. The Bittern used to afford excellent sport in falconry; for when flown at, it immediately begins to soar, rising in spiral circles, and endeavouring to keep above its enemy. Should this manœuvre fail, it then prepares for the descent of the Hawk, by setting its sharp bill perpendicularly upwards, upon which its impetuous antagonist frequently transfixes itself, or is so severely wounded as to be obliged to give up a second attack. The bellowing or booming noise of the Bittern is confined to the pairing-season, which commences in February or the beginning of March. At this time, on the approach of twilight, it leaves its place of resort during the day, and, rising in a spiral direction, soars to a very great height, uttering at intervals the peculiar cry that in former days was heard with superstitious dread. It also makes the bellowing noise when on the ground, to assist in the production of which extraordinary note it was supposed to thrust its bill into the hollow of a reed—an idea not at all probable, and unsupported by any confirmatory evidence.

“The nest of the Bittern is generally placed very near the water, among the thickest reeds or long herbage, and is composed of a large mass of reeds, sticks, &c., containing four or five eggs of a pale asparagus-green colour, from which, in the course of twenty-five or twenty-six days, the young are produced. These, as may be supposed, are at first very shapeless, being naked, and the neck, head, and legs appearing quite out of proportion to the other parts of the body. They are fed by the parents till fully fledged, and do not quit the nest until nearly able to provide for themselves. The food of the Bittern consists of water-insects, reptiles, fish, and small mammalia, particularly moles, mice, and shrews. Young birds are also frequently devoured; and Sir William Jardine informs me that he once took a whole *Water-Rail* out of the stomach of a Bittern,—a fact, however, not extraordinary, when we consider that the gape of this bird is very wide, and will stretch to a great extent, the commissure of the bill reaching behind the line of the eyes, and the œsophagus being through its whole length capable of much distention. The Bittern, in earlier times, was greatly esteemed as a luxury for the table, and even now it brings a good price when exposed for sale. The flesh is dark-coloured, but not coarse in texture, and the flavour partakes of that of the Hare, combined with the peculiar taste of what are usually termed ‘Wild Fowl.’”

Dr. Latham states that the booming noise is supposed to arise from a loose membrane, which can be inflated with air and exploded at pleasure; but Mr. Selby states that the internal anatomy of the bird exhibits no peculiarity. That it is produced by the inflation of the throat I am certain; for we may many times in the course of the year witness the action, and the utterance of the peculiar sounds, in an allied species of Bittern now in the Gardens of the Zoological Society of London.

The Plate represents an adult and four young ones, of the size of life. For the opportunity of figuring the latter, I am indebted to the kindness of A. W. Crichton, Esq.



BOTAURIUS LENTIGINOSUS.

Timothy & W. Hart, del et lith

W. H. L. L. L.

BOTAURUS LENTIGINOSUS,

American Bittern.

Ardea lentiginosa, Mont. Orn. Dict. Suppl., pl.

—— *stellaris*, var., Lath. Ind. Orn., vol. ii. p. 680.

—— *minor*, Wils. Amer. Orn., vol. vii. p. 35, pl. 65. fig. 3.

—— *mokoho*, Vieill. Nouv. Dict. d'Hist. Nat., tom. xiv. p. 440.

Botaurus freti Hudsonis, Briss. Orn., vol. v. p. 449.

—— *lentiginosus*, Steph. Cont. of Shaw's Gen. Zool., vol. xi. p. 596.

—— *minor*, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 48.

THERE are at least four or five instances on record of this Bittern having been killed in the British Islands ; but it is questionable if it has ever been seen on the continent of Europe—a circumstance which is somewhat strange, and leads one to wonder how those which have wandered hither have found their way from America to this country. If the bird were endowed with great powers of flight or a structure which would enable it to rest on the great waters which intervene between the Old and the New Worlds, the passage would not be a difficult one. By what means, then, does it arrive here ? The most plausible theory that presents itself to my mind is that the transit is effected by those birds which are blown off the coast of America resting from time to time on the great masses of floating sea-weed and pieces of timber so constantly occurring in the open ocean and especially in the Gulf-stream, which sets directly on our own shores and those of Northern Europe. If there were not such opportunities for resting, how would it be possible for the little *Regulus calendula* to reach Scotland, or the Yellow-billed Cuckoo and Belted Kingfisher to land in safety on the coast of Ireland ? whence these feeble-winged birds never attempt to return, but make the best they can of the strange land they have lit upon until shot down and converted into trophies for the museum, examples for the pencil of the artist, and materials for a page or two in works of science, wherein they are recorded as accidental visitors.

The first recorded British specimen, the one “from which Colonel Montagu's description and figure were taken, was shot by Mr. Cunningham in the parish of Piddletown, in Dorsetshire, in the autumn of 1804. Mr. Cunningham stated,” continues Yarrell, “that, when in pursuit of some Pheasants among the high banks between the broad ditches of some rich water-meadows about half a mile distant from the river Frome, the bird rose, and he shot it. The flight was rather rapid, and the bird made a noise something like the tap on a drum, which induced him to believe it was the Common Bittern ; and as such he sent it to Colonel George, of Penryn, in Cornwall, who was at that time making a collection of birds. The specimen was quite fresh when it arrived at Penryn, where it was preserved ; but the sex was not noted. When Colonel George disposed of his collection, this bird was bought for Colonel Montagu, and was afterwards with his other birds transferred to the British Museum, where it is still preserved.”

The second example was made known by Dr. Edward Moore, who in his “Catalogue of the Wading Birds of Devonshire,” published in the tenth volume of the ‘Magazine of Natural History,’ says :—“I have been so fortunate as to obtain a specimen shot at Mothecombe, near Plymouth, December 22, 1829.”

The knowledge of the occurrence of a third example near Christchurch in 1836, was communicated to Mr. Yarrell by the Rev. H. D. Fussell, of Ellingham, near Ringwood, Hants. Yarrell was also told by Mr. J. R. Wallace, of Douglas, in the Isle of Man, that a bird, believed to be of this species, had been procured on that island.

In October 1844 I had the pleasure of handling in the flesh the only specimen yet obtained in Scotland. It was killed on the property of my old and valued friend Sir William Jardine, Bart., in Dumfriesshire, with whom I was at the time on a visit at Jardine Hall.

In 1846 the late Mr. Thompson placed on record, in the ‘Annals and Magazine of Natural History,’ “the occurrence of an American Bittern in Ireland, the first known to have visited this island. The fresh skin being sent to Belfast to be preserved and mounted, came under my inspection on the 14th of November, 1845 ; and having learnt that it had been sent from Armagh by the distinguished astronomer Dr. T. R. Robinson—whose acutely observant eye had not failed to mark the differences between it and *Botaurus stellaris*,—I wrote to him for all particulars respecting the bird, and received the following information :—“It was shot by my second son, W. R. Robinson, about noon on the 12th of November last, in a bog, part of a flat partially drained tract called Llayde Bottoms, surrounded with hills, and a mile from Armagh. It was put up in sedge, seemed lazy, and flew heavily, not showing the usual wariness of the Bittern, but letting

him come rather close before it rose. Its stomach was empty ; but it was very fat, and very good eating ; for we roasted it ! The sex was unfortunately not noted. The glottis was peculiar, so that I suppose it must have had the powerful voice of the common species." Dr. Robinson, on being informed that it was the American Bittern, most liberally presented the bird to the Belfast Museum.

In the same month of February 1846 in which Mr. Thompson's account of the Irish bird appeared in the 'Annals,' the 'Zoologist' contained a notice by Mr. James Cooper, of Preston, of an example of this Bittern having been killed about the 8th of December, 1845, in the neighbourhood of Fleetwood, in Lancashire.

The above are, I believe, all the examples known to have occurred in our islands.

The *Botaurus lentiginosus* being strictly an American bird, it is to the writers on the avifauna of that country that I must now refer for an account of its habits and manners. But first with regard to its range. Audubon informs us that in winter it resides chiefly to the southward of the United States, the only districts in which he met with it being the peninsula of Florida and its islands and the lower parts of the valley of the Mississippi. Captain Blakiston states that it "is not uncommon in the interior of British North America." Mr. Murray notices it from the coast of Hudson's Bay ; and Mr. Ross gives the range on the Mackenzie to the Arctic coast. Mr. H. E. Dresser remarked that it was common and resident in southern Texas ; Mr. Salvin observed it at Dueñas and Coban (in Guatemala) ; it was noticed by Dr. E. Coues on his journey from Arizona to the Pacific ; and Mr. Brown includes it in his 'Synopsis of the Birds of Vancouver Island.'

"In Lower Louisiana," says Audubon, "it is seldom obtained in spring, but is a regular autumnal visitant, appearing early in October and frequenting the marshes both of fresh and salt water, where many remain until the beginning of May. It is then common in the markets of New Orleans, where it is bought by the poorer classes to make gombo soup. In almost every other part of the United States it is commonly called the 'Indian Pullet' or 'Indian Hen.'

"Although in a particular place, apparently favourable, some dozens of these birds may be found today, yet, perhaps, on visiting it tomorrow you will not find one remaining ; and districts resorted to one season or year will be found deserted by them the next. That they migrate by night I have always felt assured ; but that they are altogether nocturnal is rather uncertain, for in more than half a dozen instances I have surprised them in the act of procuring food in the middle of the day, when the sun was shining brightly. That they are extremely timid I well know ; for on several occasions, when I have suddenly come upon them, they have stood still, from mere terror, until I have knocked them down with an oar or a stick. Yet, when wounded and their courage is raised, they show great willingness to defend themselves ; and if in the presence of a dog, they never fail to spread out to their full extent the feathers of the neck, leaving its hind part bare, ruffle those of the body, extend their wings and strike violently at their enemy. When seized they scratch furiously, and endeavour to bite ; so that, unless great care be taken, they may inflict severe wounds. I never saw one of them fly further than thirty or forty yards at a time ; and on such occasions their movements were so sluggish as to give opportunities of easily shooting them ; for they generally rise within a few yards of you and fly off very slowly in a direct course. Their cries at such times greatly resemble those of the Night and Yellow-crowned Herons. My friends Dr. Bachman and Mr. Nuttall have both heard the love-notes of this bird. The former says, in a letter to me, 'their hoarse croakings, as if their throats were filled with water, were heard on every side ;' and the latter states that 'instead of the *bump* or *boomp* of the true Bittern their call is something like the uncouth syllables *pump-ai-gah*, but uttered in the same low bellowing tone.' An egg presented by Dr. Brown, of Boston, measures two inches in length, by one inch and a half, and is of a broadly oval shape, rather pointed at the smaller end, and of a uniform dull olivaceous tint."

It is said to extend as far northward as the shores of Hudson's Bay, in summer, and, according to Dr. Richardson, "is a common bird in the marshes and thickets of the interior of the fur-countries up to the fifty-eighth parallel. Its loud booming, exactly resembling that of the common Bittern of Europe, may be heard every summer evening, and also frequently in the day. When disturbed, it utters a hollow croaking cry. It lays, according to Mr. Hutchins, four eggs of a cinereous-green colour." They breed about the beginning of June, making their nest in swamps ; and the young are said to be at first black. Their food is said to consist chiefly of fishes and aquatic reptiles ; and their flesh, when in good condition, is by many persons considered excellent.

The American Bittern is readily distinguished from its European relative by its great inferiority of size, by the upper surface being darker and much more minutely freckled, and by the feathers of the neck and breast having each a broad stripe of dark rusty red down the centre.

The figure is about three fourths of the natural size.



ARDETTA MINUTA.

ARDETTA MINUTA.

Little Bittern.

Ardea minuta, Linn. Syst. Nat., tom. i. p. 240.

—— *danubialis*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 637.

Botaurus minutus, Boie, Isis, 1822, p. 559.

—— *pusillus*, Brehm, Vög. Deutschl., p. 598.

Ardeola minuta, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 48.

Cancrophagus minutus, Kaup, Natürl. Syst., p. 42.

Butor minutus, Swains. Class. of Birds, vol. ii. p. 354.

THE Little Bittern, being a very shy and recluse bird, it is probable that many more examples may have come to England than have been detected; however this may be, it has been killed in sufficient numbers, both in this country and in Ireland, to show that it is not one of the rarest of our British birds. Most of these have been obtained in the spring, just prior to the breeding-season, a period of the year when birds become restless and are prompted to wander, and probably have been individuals which, during their passage from south to north, have been driven out of their course in a westerly direction, when, as a natural consequence, they would strike the British shores, and gladly seek rest by alighting thereon. If under these circumstances two or more of opposite sexes were to meet, there is no reason why they should not breed and spend the summer among our marshes and fluviatile districts, as the Great Bittern used to do; as yet, however, I believe neither eggs nor very young birds have been procured. That at least some of the specimens which have been obtained were birds which had been driven out of their intended course is evident from the following notes, communicated to me by Mr. Gatcombe:—"Early in May 1865, a pair of Little Bitterns were seen in the neighbourhood of Plymouth, one of which was caught by some boys, who said it was entangled in a bramble bush by the side of a stream. It was a male in fine plumage; its companion flew away." In another note Mr. Gatcombe says, "it may interest you to know that a Little Bittern was obtained at the fishing-village of Beer, near Seaton, on the coast of Devon, on the 20th of April, 1869. It was seen by some fishermen to alight *in* a boat lying on the beach, and was taken out of it in a most exhausted state; and I know of several other examples which have been picked up in the same state on our coast."

Besides the above, instances are on record of the occurrence of the Little Bittern in Somersetshire, Herefordshire, Shropshire, South Wales, Dorsetshire, Hampshire, Middlesex, Norfolk, Cambridgeshire, Yorkshire, Northumberland, and, lastly, in Cornwall, as detailed in the following notes from my friend E. H. Rodd, Esq., of Penzance:—"June 14, 1866. I saw yesterday a very beautiful specimen of a male Little Bittern in the highest development of plumage. It was killed at the large pool at Trescoe, one of the Scilly Islands; its weight was exactly three ounces, and its ruff quite as large in proportion to the bird as that of the Bittern." "April 12, 1867. An adult male Little Bittern, in fine plumage, like the one from Mr. Smith's grounds in Scilly, was brought to me yesterday. It was killed not far from St. Michael's Mount; like the former it weighed three ounces."

Mr. T. White, Taxidermist, of Bath Road, Cheltenham, wrote November 20, 1867:—"I have a Little Bittern, killed last winter within a mile of this town, at a pond full of dead rushes &c. There were three more, but I could not succeed in killing either of them; they go off in the daytime, but come back at dusk."

Apart from the British Islands the Little Bittern ranges in summer over all the central and southern parts of Europe, and in winter is probably as extensively spread over Africa. Its occurrence in India is very doubtful; for although Dr. Leith Adams includes it in his list of the birds of that country, Mr. Jerdon thinks it likely that he has mistaken the *Ardetta sinensis* for our species.

Speaking of the bird in Norfolk, Mr. Stevenson says:—"No doubt, from time immemorial, the Little Bittern has occasionally sought shelter in the luxuriant herbage of the "Broad"-district, nor is it at all improbable that it may even have remained with us at times and bred, having been found in pairs during the summer months, and, in one instance, a perfect egg was taken from a female killed near Lowestoft. Its skulking habits, however, and the almost impenetrable nature of the swamps it frequents, render its detection, except by the merest accident, extremely improbable."

The situations described by Mr. Stevenson are precisely those which the bird frequents in every country in which it is found. During the spring it frequently perches on trees; and Selby says that its usual

position, when at rest, is that of sitting upon the whole length of the tarsi, with the neck bent, the head thrown back, and the bill pointing almost perpendicularly upwards.

"It is a matter of surprise," says Meyer, "how the Little Bittern puts in practice one of its habits, namely that of climbing or running up and down a perpendicular branch of a tree with as much ease as if it walked on the ground. The necessity of placing its feet in a line makes the circumstance unavoidable of crossing its legs at every step, while the formation of its feet is apparently adapted only for the purpose of wading. The length and pliability of the toes and the arched and sharply-pointed claws materially aid the bird in retaining its hold." This remarkable habit is fully confirmed by the following note, with which Mr. C. Buxton has favoured me:—"Fox Warren, Cobham. Dec. 15, 1862. I have two Little Bitterns alive. Their ways and attitudes are the strangest I ever saw. They live entirely on the boughs of a rose-tree that creeps up the wall of the house. They *never wade*, but evidently only have the idea of hanging-on and striking at their prey as it passes. I shall be happy to lend them to you if you care to watch them; they would live in a basket, and only require a little raw meat. Nobody can help laughing who sees them for the first time, with their beaks pointed to heaven, their eyes peering out at right angles, and their legs straddled out."

"The Little Bittern," continues Meyer, "is very artful in keeping itself out of sight, and also in deceiving the greater number of its enemies, when in an unsheltered spot, by placing itself in a stiff unnatural position when it perceives the approach of danger, in which it remains so immovable, and for so long a time, that, when it is obliged at last to take wing, it flies up with such unexpected noise that the sportsman is generally too much taken by surprise to avail himself of the opportunity of firing until the bird has attained too great a distance to be shot; and when concealed among reeds, rushes, or herbage, it is with the greatest difficulty that it is made to start; and to effect this purpose frequently requires much caution and perseverance. The best time to get a sight of the bird is towards the evening, owing to its habit of coming forth at that time; but, to reach unperceived a hiding-place for the purpose of lying in wait, the greatest caution is required when approaching places supposed to be frequented by it.

"The flight of the Little Bittern is different from that of others of its family, being performed with stronger and quicker motions of the wings. It does not fly high in the air during the day, but only high enough, in general, to clear the vegetation among which it resides. In the act of taking flight, it flutters quickly with its wings; but when alighting, it throws itself, as it were, to the earth, only breaking its fall when close to the ground by expanding the wings."

The food of the Little Bittern naturally consists of the objects which are so abundant in the swampy places it frequents—namely, small fishes, young frogs, newts, aquatic insects, worms, and mollusca of various kinds. It breeds among the rushes, the nest being placed on hummocks in the marshes, a little above the usual rise of the water, and in some instances on the overhanging boughs of a tree; it is said that a few have also been found in bushes about three feet from the ground; it is a large and shapeless structure, composed of broken reeds, grass, and other similar materials. The eggs are five or six in number, white, tinged with very pale blue, an inch and five twelfths in length by an inch and a twelfth in breadth. Their incubation occupies sixteen or seventeen days.

The male is stated by Vieillot to emit, when alarmed, a loud barking cry, much resembling the barking of a dog when heard at a distance; and in a communication sent to the 'Zoologist' in 1849 by the Rev. H. T. Frere it is thus described:—"On two or three successive nights, when sailing on the broad, we heard a noise in the marsh at the side resembling the bark of a dog, or more nearly the grunt a paviour gives when dropping his rammer. Though all the party were tolerably well acquainted with the notes of the marsh-birds, this was a novelty to us. A marshman, however, recognized it as the note of the Little Bittern, one of which he had shot some thirty years before."

"With reference to the somewhat puzzling plumage of this species," says Mr. Stevenson, "Messrs. Gurney and Fisher remark, 'from an inspection of the specimens obtained from time to time in the Norfolk district, we incline to the opinion that, if the females of this species ultimately arrive at a plumage similar to that of the adult males, as is asserted by modern naturalists, it is only at a much more advanced period than that at which the same plumage is assumed by the latter; and it appears quite certain that the female in the supposed immature plumage pairs with the adult male.'"

The figures in the accompanying Plate, which are of the natural size, will show the ordinary difference in the colouring of the sexes. Owing to the length and looseness of the plumage, one would have supposed that the male at least would weigh nearly double the weight which Mr. Rodd has stated (three ounces).



CICONIA ALBA.

CICONIA ALBA.

Stork.

Ardea ciconia, Linn. Faun. Suec., p. 57.

Ciconia alba, Briss. Orn., tom. v. p. 365, pl. xxxii.

——— *albescens, nivea, et candida*, Brehm, Vög. Deutschl., pp. 574, 575.

THE Stork is one of the most conspicuous of migratory birds, and is specially interesting from the circumstance of its arrival and departure occurring with a precision which did not escape the notice of the inspired writers; for we read in Jeremiah, viii. 7, "Yea, the Stork in the heavens knoweth her appointed times." To witness the exactitude with which these movements are effected, my readers must proceed to certain parts of the neighbouring continent; for our islands are not in the direct line of the bird's migrations; indeed the Stork has probably never been more than an accidental visitor to us; still we have abundant evidence of its occurrence in Britain, from the time of Willughby and Ray to the month in which I am writing (May 1871), when Mr. J. H. Gurney, Jun., showed me a fine old male in the flesh, which had been shot either at Dungeness or Romney, in Kent. On the Continent, particularly in Germany and Holland, the arrival of the Stork is regarded as the true harbinger of spring, and is looked for with the highest interest, as will be seen from the following passage in the clever work by MM. Erckmann and Chatrian, entitled 'Contes des Bords du Rhin,' to which my attention was directed by Professor Owen. The scene is from the story called "L'ami Fritz," chap. 8, page 31.

"At two o'clock entered Professor Speck, with his great square-toed shoes at the end of his long thin legs, his long brown coat, and his epicurean nose. He took off his hat with a solemn air, and said, 'I have the honour to announce to the company that the Storks have arrived!' Forthwith was repeated from every corner of the beer-house 'The Storks have arrived! the Storks have arrived!'

"A great tumult commenced; every one quitted his half-finished pint to go and look at the Storks. In less than a minute there were more than a hundred persons with their noses in the air in front of the 'Great Hart.' At the very top of the church a Stork, resting on her stilt-like legs, her black wings folded above her white tail, her large red beak inclined with a melancholy air, was the admiration of all the town. The male Stork whirled around, and tried to settle himself on the wheel, where still hung a few ends of straw. The Rabbi David had also arrived, and looking up, his old hat hanging at the back of his head, exclaimed 'They have come from Jerusalem! They have reposed on the Pyramids of Egypt . . .; they have traversed the seas!' All along the street, in front of the market-house, nothing was seen but old gossips, old men, and children, their heads thrown back in a sort of extasy, some old women saying, while wiping their eyes, 'We have seen them again, once more!'

A detailed account of all the recorded instances of the occurrence of the Stork in England would be without any compensating amount of interest; I shall therefore merely remark that its visits are by no means regular, that in one year one, two, or more may appear, while in the next, or probably two or three years, none may be seen; the latest instance that has come to my knowledge is the one above mentioned, in which the bird was submitted to my inspection by Mr. Gurney.

Now what is the especial use of the Stork in the countries it regularly frequents, which renders it so great a favourite? The ridding of the low miasmatic and heated marshes of the reptiles, fishes, and insects which abound in such situations, cleansing them as it were and keeping down putridity, just as the great Adjutant and the Kites clear away the offal from the cities of the east; in performing which useful task the young of many marsh-birds, Partridges, Larks, &c. fall victims to its voracity; neither do moles, shrews, or leverets come amiss to it.

Besides being valued for its usefulness, its great size, noble and attractive bearing, and semidomestic disposition render it a general favourite with every one. In Holland and Germany it seldom breeds in the marsh or the forest, but, more familiar than the Rook, it seeks a closer association with man by resorting to high chimneys, the gable ends of houses, the towers of churches, and similar situations, an uplifted cart-wheel, &c., and thereon constructing its nest and rearing its young—each individual, if no mishap attends it during its winter sojourn elsewhere, returning in spring to the same site for the like purpose, and being greeted with a hearty welcome. How different is the reception given to any straggler to our islands! no sooner does it make its appearance than it is immediately pursued and generally shot.

Besides inhabiting Europe, Asia Minor, and Africa, the Stork frequents at one season or other the western

portion of India, Amoorland, and probably China ; its range, therefore, is most extensive. In America it has never been seen, the Atlantic sea on the west and the North Pacific on the east forming barriers which it never crosses.

“The Stork,” says Mr. Bennett, “has in all ages been regarded with peculiar favour, amounting in some countries almost to veneration, partly on account of the services it performs in the destruction of noxious animals and in removing impurities from the surface of the earth, and partly on account of its mildness of temper, the harmlessness of its habits, and the moral virtues with which the imagination has delighted to invest it. Among the ancient Egyptians the Stork was regarded with a reverence inferior only to that which was paid to the sacred Ibis. The same feeling is still prevalent in many parts of Africa and the East ; and even in Switzerland and Holland something like superstition seems to mingle in the minds of the common people with the hospitable kindness which a strong conviction of its utility disposes them to evince towards this favourite bird . . . In numerous parts of Holland its nest, built on the chimney-top, remains undisturbed for many successive years, and the owners constantly return with unerring sagacity to the same spot. The joy which they manifest on again taking possession of their dwelling, and the attachment which they testify towards their benevolent hosts are familiar to every one. They generally lay from two to four eggs, of a dingy yellowish white, rather longer than those of a goose, but not so broad. The incubation lasts for a month, the male sharing in the task during the absence of the female in search of food. When the young birds are hatched they are carefully fed by their parents, who watch over them with the closest anxiety. As soon as they are capable of flying, the parents exercise them in it by degrees, carrying them at first on their own wings, and then conducting them in short flights around their nest. In repose, the Stork is commonly seen standing upon one leg, with its long neck bent backwards and its head resting on its shoulder. Its motions are slow and measured, the length of its steps corresponding with that of its legs. In flight its head and neck are directed straight forwards, and its legs extended backwards, an awkward and apparently constrained position, but that which is best calculated for enabling it to cleave the air with rapidity. When migrating, the Storks appear gradually to assemble in one spot from the whole of the surrounding district to the number of many hundreds, making, when they meet, that peculiar clattering with their beaks which appears to serve them in the place of voice. As soon as their number is completed, the entire body mount at once into the air without noise or confusion, and are speedily lost sight of in the loftiness of their flight.”—*Gardens and Menagerie of the Zoological Society delineated*, vol. i.

“I shall never forget,” says Mr. Gurney, Jun., “the interest I took in a Stork’s nest at Medea, in Algeria. It was placed in one of two chimneys at the gable end of by no means the largest house in the town. I watched it for hours. The old birds were constantly repairing it and moving about the sticks ; and although it was small, both birds found room to stand in it at the same time. The bird leaves the nest with a spring, and gets quite clear before it expands its huge wings, but does not draw in its legs, which hang down awkwardly at first and then stream out behind. When it alights the legs are cast upwards and sideways.”

Speaking of the bird as observed in Palestine, the Rev. H. B. Tristram says :—“The White Stork is a regular though only a passing migrant. During the whole of April it covers the land, suddenly appearing in the south, and moving northwards a few miles a day. Thus we were told by some travellers who came up to Gennesaret that the whole country about Samaria was covered with Storks. Two days afterwards they overspread our neighbourhood, not close together, but scattered over hill and valley, plain and marsh alike, steadily quartering the ground, seldom near one another, but generally about a hundred yards apart, picking up snakes, lizards, frogs, or fish, according to the locality. Just after this I had occasion to make a six days’ journey to the south-east ; the Storks were everywhere, among rocks on the hills, in olive-yards, sandy plains, on the dunghills of villages, on the top of Nebo. They remained apparently until they had cleared off the reptilian harvest, and departed for the north as suddenly as they came. A very few pairs here and there remain to breed, notably among the ruins of Gerash and Ammon, perhaps also at Cesarea. They showed great confidence in man, and are never molested by the natives.”

Both sexes are alike in plumage ; but the female is somewhat smaller than the male ; and the young, when fledged, do not differ from their parents except in the darker colouring of their bills and legs. To show the difficulty of obtaining a young chick of this species, I may mention that for ten years I solicited my Continental correspondents to obtain me one without success, until at length my old and valued friend Professor Kaup, of Darmstadt, knowing that I required it purely for a scientific purpose, not only sent me a specimen, but also a drawing from life, by which means I have been able to portray correctly the colouring of the soft parts—for which act of attention I here record my thanks.

The upper part of an adult, and the young, are represented of the size of life.



CICONIA NIGRA.

CICONIA NIGRA.

Black Stork.

Ardea nigra, Linn. Faun. Suec., p. 58.

Ciconia nigra, Bechst. Naturg. Deutschl., tom. iv. p. 96.

——— *fusca*, Briss. Orn., tom. v. p. 362, pl. 31.

LIKE the foregoing species, the Black Stork is a migratory bird. In the spring it advances to a much higher latitude than the White, visiting even Russia and Siberia, and passing over Sweden towards the north in considerable numbers; but it seldom comes so far westward as England. In Eastern Europe it is frequently met with; it is included by Schrenck among the birds of Amoorland; it also inhabits North Africa, and it is particularly abundant on the Nile, whence a fine specimen was brought to me by Mr. Cuthbert Larking. The Rev. H. B. Tristram states that it is found all through the winter in small flocks on the barren plains by the Dead Sea, never visiting the upper country, and mentions that he met with a flock of about two hundred, apparently searching for food, in the barren salt plain close to the border of that sea. They were too wary to allow him to approach within shot, but did not fly far when disturbed. As well as he could discover, they were feeding on the small snails which cluster on the twigs of the *Salsola* in that arid region.

In the islands of the Mediterranean it appears to be scarce; Mr. Wright notes it as rare at Malta and Gozo, and Lord Lilford as being equally so in the Ionian Islands; Messrs. Elwes and Buckley state that it is by no means numerous in Turkey, but that a pair is found here and there in Bulgaria.

Unlike the White, the Black Stork shuns rather than courts the society of man, "and," says Mr. Bennett, "makes its temporary dwelling in the most secluded spots, frequenting impenetrable morasses or the banks of such rivers and lakes as are seldom disturbed by the presence of intruders, and building its nest on the summits of the loftiest pines." It would seem, however, that the situation of the nest depends much upon the nature of the locality; for Messrs. Elwes and Buckley state that in Bulgaria "the nest is usually built in a rock in a lonely situation, and is used for many consecutive years": and Mr. W. H. Simpson, when speaking of the low cliffs which flank the lateral valleys and occasionally the stream of the Danube itself on the shore of the same country, states that they are favourite places for the larger birds of prey; but not of these alone, for the Black Stork also breeds there; "at least," says he, "we discovered one nest in a very peculiar position for a bird which has the reputation of breeding in the densest thickets of impervious morasses. The cliff in this case was about sixty feet high, the strata being horizontal or nearly so. In the face of the upper ledge there had been at some time, artificially excavated in the soft stone, a chamber having a sort of antechamber, which communicated by means of a couple of steps with a crack in the rock, which it was not difficult to reach from the top when the exact path was once known. The chamber itself had much the appearance of a hermit's cell; but as the aperture in the face of the cliff was the entire width of one side, the apartment was airy and cheerful, commanding a fine view of the valley below. Altogether it was a place where one could have had no objection to put up for a few days in case of necessity. Here it was that a pair of Black Storks had taken up lodgings for the season, as we found out one morning about the 27th of April. Some little time elapsed before we discovered the entrance from the top, a fact of which the Black Storks were probably not cognizant. At the time of our first visit there were no eggs, nor, indeed, was there any thing exactly worthy of the name of a nest. But in the floor of the chamber was a circular depression about the size and shape of a large dinner-plate, not far from the edge of the aperture. For what purpose this depression, evidently artificial, had been made, was to us as great a mystery as the origin of the entire excavation. The Black Stork had evidently thought she could put it to some use; for it was here, upon a few dry sticks which partially filled the depression, that she meant to lay her eggs. As it was necessary for me to leave Turkey about the 4th of May, it was agreed not to approach the place again till the day before my departure. In the interim I used occasionally to take a stroll down the valley and seat myself on the opposite hill, where, through a telescope, I could see the Black Stork sitting composedly on her make-shift of a nest, looking like some spirit of darkness in its cave. Already I was counting the eggs, which would undoubtedly have been mine but for the evil curiosity of a Transylvanian shepherd, who had noticed me spying into the hole, and had perhaps seen us entering it. On the appointed day I rode over with a friend. Dismounting at the edge of the cliff we crept down to the crack in the rock, and thence through the artificial passage into the chamber itself. Neither bird nor eggs were visible; some great catastrophe had happened, and the eggs I had counted on, though laid, were missing. It transpired that the Transylvanian had done the deed, having

probably sucked the eggs on the spot. We sought him everywhere, in the hope that he might have preserved them, but he was not to be found. Through the kindness of my friend I was not wholly disappointed after all. The Black Stork laid two more eggs, which he secured and brought over to England the following summer. These are now in my collection. They are smaller than those of *Ciconia alba*, from which they may also be distinguished by a very faint greenish tinge being noticeable on closer inspection." More commonly the Black Stork resorts to the distant forests for the purpose of nesting and rearing its young, particularly those which are interspersed with streams and pools of water or marshy flats. "There towards the end of April," says Mr. Hewitson, "it builds its nest in solitude near the top of one of the highest trees of the forest, for the most part upon that of the pine tree. The nest, though large, is less than that of the White Stork ; its foundation of sticks is rendered more firm and stable by the addition of sods of earth, the remainder of the nest being completed with finer sticks. The eggs are four in number, very like but smaller than those of the White Stork."

The Black Stork is only an occasional or rare visitant to our islands, in proof of which I may mention that Yarrell enumerates only four specimens as having been killed in any part of them, namely—Colonel Montagu's bird on West Sedge Moor, in Somersetshire, in May 1814 ; one on the Tamar, in Devonshire, in November 1831, now in the possession of E. H. Rodd, Esq., of Penzance ; another at Otley, near Ipswich in Suffolk, October 1832 ; and one on the south side of Poole Harbour, November 1839 ; to these, however, two more have been added by the Rev. F. O. Morris, namely, one killed on Market Weighton Common, in the East-Riding of Yorkshire, in October 1852, and a second, which Mr. Chaffey, of Dodington, informed him had been killed in the Weald of Kent. In addition to these Mr. A. Newton informed Mr. Stevenson "that Mr. Thornhill, of Riddlesworth, possesses a very fine specimen which he obtained in the flesh more than twenty years since of a labourer who had just shot it on some property of his own in Romney Marsh ; and in Mr. J. H. Gurney's collection is a specimen said to have been killed at Poole in 1849, just ten years later than the one before mentioned from the same locality." Besides the above, W. Christy Horsfall, Esq., states in the 'Zoologist' for 1862, under the date of September 8th, that he had just added to his collection a fine specimen which had been recently obtained at Hartlepool ; and the Hon. Augusta Annesley has called my attention to another, which her friend F. D. Hibbert, Esq., stated had been shot on Otmoor about the middle of November 1862. To these another has yet to be added : on the 14th of June 1867, I received a letter from Mr. Anthony Hammond informing me that a fine Black Stork had been shot on the banks of the river Nar, at Westacre, in the morning of the 19th of May. It had been about the meadows in the neighbourhood for a week and was always fishing. It proved to be an adult female, weighing over seven pounds, and is now in the fine collection of birds at Westacre High House.

The food of the Black Stork is precisely the same as that of its ally ; in its search it wades deep in the water and kills its prey by shaking and beating before swallowing it. When about to fly, the bird takes one or two short leaps, and, when alighting, skims a short distance before touching the ground, and places its wing-feathers in order before it moves on further. It readily submits to captivity, and never uses its powerful bill offensively against its companions. The only sound made by the bird appears to be the clattering one produced by the repeated snapping of its mandibles.

Mr. Jerdon mentions, in his 'Birds of India,' that there "this bird is considered one of the finest quarries for the *Bhyri* (*Falco peregrinus*), and the day that a Black Stork is killed is marked by the Indian Falconer with a white stone."

There is no difference in the colouring of the sexes, and but little in size ; the female is, however, a trifle smaller than the male.

The portion shown of the principal figure is nearly of the natural size.



PLATALEA LEUCORODIA, *Linn.*

Spoonbill.

Platalea leucorodia, Linn. Faun. Suec., p. 56.

——— *nivea*, Cuv. Règn. Anim., tom. i. p. 482.

——— *leucorodius*, Glog. Schles. Fauna, p. 50.

Platea leucorodia, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 33.

THE Spoonbills constitute an exceedingly well-defined genus of Grallatorial birds, comprising six or seven species, one or other of which inhabit Europe, Africa, India, Japan, and Australia. Generally speaking, only a single species frequents any one country; in Australia, however, there are two, the *Platalea regia* and *P. flavipes*; in Japan there are also said to be two, *P. major* and *P. minor*; while the faunas of North and South America are adorned with but a single species, the beautiful *P. ajaja*. In structure the genera *Platalea*, *Ibis*, and *Tantalus* are all closely affined; but the modification in the form of the bill leads each to assume a somewhat different mode of life, action, and economy; they all, however, frequent low humid and marshy situations, and live on the various inhabitants of such watery wastes. The Ibises and Tantali feed almost exclusively upon frogs, small fish, and mollusks, for the seizing of which their bills are admirably adapted; the Spoonbills, on the other hand, although sometimes partaking of the same kind of food, feed more exclusively on small crustaceans and shelled mollusks, aquatic worms, and seeds of water-plants, for the gathering of which their bills are equally well adapted. Most of, if not all, the Spoonbills are subject to a change of plumage at the nuptial season, which appears to be equally shared by both sexes; the *P. leucorodia* of Europe and the *P. regia* of Australia assume at that time a beautiful and full crest of lengthened feathers; and an assumption of ornamental feathers or colouring takes place on some part of the body in the other members of the genus.

In times gone by, the Common Spoonbill (*P. leucorodia*) was abundant in many of the marshy districts of England during the months of summer, and regularly bred in some of them, especially in those of our eastern counties; and that it still resorts to its old haunts, though in greatly diminished numbers, is evidenced by the fact that scarcely a year passes away without one, two, or more being seen or killed in the marshes of Romney or the broads of Suffolk and Norfolk; these occurrences, however, are too numerous to be detailed here. Whenever, during the vernal and autumnal migration of the Spoonbill, the direction of the wind happens to be favourable for a journey to Britain, a few are almost certain to visit our shores. Once landed, persecution awaits them; every gunner is their enemy, and they are not allowed to rest until the fatal shot terminates their wandering. Every writer on British Birds has recorded numerous instances of its capture in our islands, from Scilly to Orkney and Shetland, from Norfolk, in the eastern part of England, to the most western county of Ireland; these I shall not repeat, but proceed to give some of the additional information I have more recently acquired, ending with an interesting letter respecting the bird's breeding in Holland, sent to me by P. L. Sclater, Esq.

Mr. Gatcombe records in the 'Zoologist' for 1863 that on the 3rd of November, 1862, "three Spoonbills were killed at one shot, out of a flock of four, on the banks of St. Germain's River, in the vicinity of Plymouth. They were all young birds of the year." Mr. Bond informed me of two that were shot on the 12th of October, 1864, near Lydd, in Kent—and of two others, a male and a female, killed at Kingsbury Reservoir, Middlesex, on the 23rd of October, 1865, respecting which Mr. J. E. Harting has favoured me with the following particulars:—

"They were first observed at Kingsbury Reservoir, close to the edge of the water, and, on being disturbed and shot at, flew to some little distance and alighted near a flock of geese in a field adjoining a farm-yard. It is thought that one of the birds was slightly wounded and, dropping down to rest, was followed by the other. Had this not been the case, I think both birds would have gone away. However, they were pursued by two gunners, who, finding that they were very shy and could not be approached directly, employed a third person to go round through the farm-yard and drive them, whilst they concealed themselves in a favourable position under a bank, where some overhanging bushes formed a good screen. This plan had the desired effect; for the birds came right over them and were both killed. I was informed by one of the gunners, and by two or three labourers who saw these Spoonbills on the wing, that they flew something like Herons, but much faster, and with the neck stretched out at full length, like a Duck, instead of being thrown back, Heron-like, between the shoulders. They were not heard to utter any note.

"I found on examination that they were male and female birds of the year. The bill, of a brownish flesh-

colour, darker towards the tip (the reverse of what is seen in old birds), was in both very soft and weak, that of the male bird being the darker of the two; the chin and lores of both completely bare, the former of a yellow, and the latter of a greyish colour. The tongue was remarkably small, being not more than an eighth part of the length of bill. There was no appearance of any crest on either bird, nor could any trace of buff-colour be observed. I was scarcely able to decide the true colour of the eye, as the birds, when I saw them, had been dead more than forty-eight hours; but from appearances I should say the irides were *hazel*, and the pupils *black*. The upper surface of the plumage was dirty white, darker on the back and scapularies; the under surface purer white. The first four quills were white, with dark-brown tips; and all had black shafts, presenting a very curious and pretty appearance when expanded."

"As you are writing about the Spoonbill," says Mr. Sclater, "you will be interested to hear that, when I last went to Holland, I paid a visit to one of the few breeding-places of the bird which are still left in that country. At the date of my visit, May the 29th, 1867, the Spoonbills had not commenced building; but I traversed the ground where their nests are generally placed, and made myself acquainted with the locality, so that I hope to be more successful in inspecting the actual process of nidification at a future time. I left Amsterdam, in company with a Dutch acquaintance, early in the morning, and went by train to Nieuwerkerk, a small station on the Utrecht line; thence we proceeded to the Nieuwerkerker Platt, a large piece of water in the neighbourhood, and took a boat, which conveyed us to some marshy islands situated in the further part of the lake. These islands are covered with dense beds of reeds, the favourite haunts of the Thrush-like Warbler (*Calamodyta turdoides*), which, at this period of the year, were singing vigorously all the day long. These reeds are varied by clumps of stunted willows, which were tenanted by a breeding-colony of the common grey Heron. The whole surface of the islands was about a foot deep in water at the time of our visit; a little later in the year we were told the water would be lower, and the Spoonbills would make their nests in the reeds. On approaching the willows, we found them occupied by a large flock of these snow-white birds, which rose speedily in the air, and flew round over the lake. There were between sixty and seventy of them, a curious spectacle within hearing of a railway train and within sight of the chimneys of Amsterdam. But as operations have already been commenced with the view of draining the Nieuwerkerker Platt, it will not be long before one of the few remaining places of refuge of the Spoonbill in Holland will have ceased to exist."

Besides being dispersed over the marshy districts of Europe, Dr. Jerdon informs us that the Spoonbill is very generally, but not abundantly, diffused all over the Indian peninsula, "frequenting rivers, lakes, and tanks. It is generally met with in small parties, but occasionally in rather large flocks, feeds in shallow water, moving its bill about from side to side, and picking up various aquatic insects and larvæ, small crustacea and mollusks.

Mr. Hewitson informs us that the Spoonbill "builds its nest upon the tops of the highest trees, and upon the ground. When built on trees, it is composed of sticks, lined with finer materials; when upon the ground, surrounded as it always is by swamp and water, it is formed of large masses of reeds, rushes, and tufts of grass, to raise it above the influence of the wet. The bird breeds in the month of May, and lays three or four eggs," which are chalky white, sparingly blotched with rufous and dark brown, the red spots being sometimes, though rarely, absent; they are 2 inches 5 lines long, by 1 inch 8 lines broad.

"The Spoonbill," says Yarrell, "possesses a peculiarity of internal structure much too interesting to be passed over. This bird is one of the few which has been found to possess no true muscles of the organ of voice; and no modulation of a single tone appears to be possessed by it." On comparing the figure-of-8-like convolutions of its singular windpipe with the organs of voice in other birds, "it will be seen that no particular ossification at the junction of the bronchi with the bottom of the tube of the trachea exists, nor any muscles by which variations in the length of the trachea or the bronchi can be effected." After quoting some instances in which this structure was not found in young birds, Mr. Yarrell adds:—"As this formation is known to exist in old females as well as in old males, I am induced to suppose that, like the occipital crest, neither sex obtain it till they have acquired a certain degree of maturity."

General plumage white, with a wash of brimstone-yellow on the crest, feathers, and across the breast; bill black, except at the tip, where it is orange-yellow; skin under the tongue and naked skin of the throat deep yellow; irides red; legs, toes, and interdigital membrane black.

The female is similar in colour, but somewhat smaller in size, and has the crest less developed.

In the very young state the birds are clothed with a greyish-white down; the bill, orbits, throat, legs, and feet are yellow, and the irides ash-colour. After the first moult the shafts and ends of the primaries are black; there is no indication of a crest; and the bill is of a much lighter colour than in the adult.

The Plate represents an adult male and three nestlings in the foreground (the former about half, and the latter the size of life) with a reduced figure of a female in the distance.



VANELLUS CRISTATUS.

VANELLUS CRISTATUS.

Lapwing or Peewit.

Tringa Vanellus, Linn. Syst. Nat., tom. i. p. 248.

Vanellus cristatus, Temm. Man. d'Orn., p. 348.

——— *Gavia*, Leach, Syst. Cat. of Spec. of Indig. Mamm. and Birds in Brit. Mus., p. 29.

Charadrius Vanellus, Wagl. Syst. Av., *Charadrius*, sp. 1.

INDEPENDENTLY of the British Islands, the Lapwing is found all over the temperate and warmer portions of Europe, from Scandinavia to the Mediterranean; it also inhabits Morocco and Algeria, occurs in Madeira, and extends its range eastward to Egypt, Syria, Persia, and the Punjab. Moreover we know that it forms part of the avifauna of China and Japan; for Mr. Swinhoe informs us it is found from Shanghai to Peking; and the Russian naturalists have observed it at Astracan, in the vicinity of Lake Baikal, and in Amoorland.

Whatever misdemeanour may be laid at the door of some of our native birds, the Lapwing, at least, is free from any such charge; for where is there one that is more useful or less inclined to mischief? No kind of depredation can be brought home to it, its whole existence and economy leading it to frequent the open wastes, and seldom to trespass upon cultivated districts, unless it be when the land is in fallow or occasionally during seed-time. Fields of waving corn and orchards redundant with fruit offer it no temptation: its province is the upland sheep-walk, the wild moorland, the wet grassy mead, the marsh, and the chases of olden times (if any be left), over which it trips and enlivens their solitude with its plaintive cry of *pee-wit*. Before scientific farming and drainage were in vogue, when the border-lines of two countries, now happily united, were haunted by the moss-trooper, and the neighbouring moors were too often fields of blood, it was more abundant than it is now. Happily, associations of a far different character are connected with it, since its justly esteemed eggs rank first among the viands of the wedding breakfast, and the festive supper is never complete without them, if procurable. The great heaths of Surrey and Hampshire, the peaty lowlands and sandy warrens of Norfolk and Suffolk, the marshes of Lincoln- and Cambridge-shires, Essex, and Kent, yearly send their quota: the number thus, combined with those sent from Holland must be immense, and it is surprising that the bird, though perhaps more rapidly declining in numbers than any other British species, is so plentiful as it still is. Dr. Plomley informed Mr. Yarrell that two hundred dozen eggs were sent from Romney Marsh alone to Dover in 1839.

Notwithstanding that the enclosure of many of the localities formerly frequented by this bird has greatly curtailed its habitat, it is still plentiful in the more sterile parts of the country; and I know of no British bird more generally diffused over the three kingdoms, for it is found far and near in sufficient abundance to render it common everywhere: in the west of Cornwall and on the sea-girt Scilly Isles it is as numerous in winter as it is in the north of Scotland in summer; its range also extends over the Orkney, the Shetland, and the Western Isles, and it even visits Iceland. Mr. Augustus Smith informed me that the Lapwing usually comes to Scilly in severe winters, and was more plentiful in 1862 and 1863 than usual, and that many then died from starvation.

In its disposition the Lapwing is naturally shy and distrustful, and, except in summer, when it is dispersed over the country in pairs, seldom admits of a very near approach. During the nesting-period it employs many artifices to draw the intruder away from the part of the heath or marsh in which its eggs are deposited, in the course of which it performs many singular and interesting evolutions, tumbling, dipping, and turning with great rapidity; still, with all its cunning, man's reasoning powers and his habit of observation render him more than a match for the bird, and those who are accustomed to the search readily find the eggs, although they are deposited in the midst of the moor, without, apparently, any means of direction to their site. Quick-eyed, indeed, are the eggers whose daily bread depends upon the success attending their long tramps over the heaths and commons on which live the Lapwings, the Stone-chats, and the Wheatears but scarcely aught else. Like the Wren and some other small birds, who often build several nests before determining in which the eggs shall be deposited, the Lapwing is capricious as to the site for the nurture of her future progeny, on which point the following passage from the late Mr. St. John's 'Natural History and Sport in Moray' may be appropriately quoted:—They "seem to commence several nests before they determine on laying their eggs in any one, as I have frequently seen three or four nests begun all near each other; and the Peewits are far too quarrelsome for these to be the nests of different birds. By the time their four eggs are laid, they generally collect a considerable quantity of straws, roots, or sticks, appearing to increase with every egg they lay." In confirmation of

Mr. St. John's remarks, Mr. Smither, of Churt in Surrey, informs me that "when the Peewit begins to nest, the male scratches out ten or fifteen holes in different places; the female selects one, in which, after making some slight alteration, she lays her eggs. When first laid, they are carelessly placed; but when she begins to sit, she arranges them with the small ends to the centre; you can therefore always tell whether their incubation has commenced. As the sitting continues, one or both birds frequently bring pieces of dead heather, decayed horse-grass, sedge, &c. to the nest; and by the time the birds are hatched, these materials have accumulated to a good handful; whether this is done to impart warmth, or for any other purpose, is unknown to me. The eggs realizing a good price, the birds are always much watched; and our good nesters will go to a hillock or rising ground, throw up their hat or a handkerchief, and watch where the birds rise from: so experienced are they, that they can tell to a certainty by their motions whether they have nests, and, if so, whether the eggs have been sat upon or not."

The young are soon removed by their parents from the dry barren heath to the softer and oozy parts of the country, where they may more readily obtain an abundant supply of the insects and larvæ upon which they subsist.

Speaking of its peculiar flight, Mr. Selby remarks that its movements are attended by a loud hissing noise of the wings, arising from their rapid motion, aided by their peculiar form, which offers a broken resistance to the air. During these aerial exercises, which are supported for a long time without intermission, the bird utters a variety of notes, very different in tone and expression from the monotonous cry of alarm that has conferred on it the name of Peewit. In autumn and winter great masses of these birds may be seen in the air, passing from one part of their feeding-ground to the other, when their broad wings render them so conspicuously different from the Golden Plover and the other members of its family that it can never be mistaken for either of them. Its flesh, continues this gentleman, is juicy and sweet in winter, scarcely yielding in this respect to that of the Golden Plover; but it becomes in the summer season dry and unpalatable.

However extraordinary are the actions of the bird in the air, the light and graceful manner in which it trips over the ground is not less so. Its movements are, indeed, most remarkable; and the suddenness with which they are occasionally suspended can only be likened to the action of a piece of mechanism, which, having run its course, abruptly stops without a shake or a quiver: the starts and apparent listenings which succeed are highly curious, but these are more or less common to all the Plovers. The Peewit is said to give motion to the ground by running round the casts of the Earth-worm, which it seizes the moment it emerges. For an opportunity of observing all these and other interesting actions, let my readers place some tame Peewits in a walled garden, where they will not only render good service by destroying worms, slugs, insects, and their larvæ, but will solace their ears by occasionally uttering the plaintive cry which has procured them their trivial name.

The sexes offer but little difference either in size or colour; but the male is the most highly coloured of the two, and has the longest occipital plume. In summer the throat of both is jet black, while at the opposite season it is white, bounded below by a dark crescentic pectoral band.

The fully fledged young birds are very beautiful; for, independently of the iridescent hues of green and purple, marks and crescentic edgings of yellowish brown occupy many parts of the feathers.

It will be seen, on reference to the accompanying Plate (which represents an old female and her four young), that these white-collared nestlings have the same general character of marking that is found in other members of the family, particularly the Dotterels. The eggs, it is scarcely necessary to mention, are four in number, rather pointed in form, of an olive hue, blotched and marked all over with deep umber-brown; they are nearly two inches in length by one inch and four lines in breadth.

I agree with Mr. Selby in thinking that the birds mentioned by Leland, under the name of "Egrets," as having been served up at the famous feast of Archbishop Nevill to the number of a thousand, must have been Lapwings, since the beautiful White Egret (*Egretta garzetta*) was probably never more than a transient visitor to this island, and to have obtained a thousand for a breakfast in any country would have been an impossibility.



HIMANTOPUS CANDIDUS.

HIMANTOPUS CANDIDUS.

Stilt- or Long-legged Plover.

Charadrius himantopus, Linn. Syst. Nat., tom. i. p. 255.

———— *autumnalis*, Hasselq. Iter Palæst., p. 253.

Himantopus melanopterus, Temm. Man. d'Orn., 2nd edit., tom. ii. p. 528, and tom. iv. p. 350.

———— *rufipes*, Bechst. Naturg. Deutschl., tom. iv. p. 446, tab. 25. fig. 1.

———— *Plinii*, Flem. Hist. of Brit. Anim., p. 112.

———— *atropterus*, Meyer, Taschenb. Deutschl. Vög., p. 315.

———— *candidus*, Bonn. Ency. Méth., Orn., part i. p. 24, pl. 5. fig. 4.

———— *albicollis*, Vieill. Faun. Franç., p. 269, tab. 117. fig. 2.

Hypsibates himantopus, Nitsch, in Ersch und Gruber, Encycl., tom. xvi. p. 150.

How can I better commence the history of this singular bird than with the following quotation from the 'Natural History of Selborne,' by the Rev. Gilbert White, a man whom we may regard as the father of British ornithologists, and whose writings have inspired more young minds with a love of nature and of our native birds than any other observer?

"In the last week of last month" (April, 1779), "five of those most rare birds, too uncommon to have obtained an English name, but known to naturalists by the terms of *Himantopus*, or *Loripes*, and *Charadrius himantopus*, were shot upon the verge of Frinsham Pond, a large lake belonging to the Bishop of Winchester, and lying between Wolmer Forest and the town of Farnham, in Surrey. . . . One of these specimens I procured, and found the length of the legs so extraordinary that, at first sight, one might have supposed the shanks had been fastened on to impose on the credulity of the beholder: they are legs *in caricatura*. My specimen, when drawn and stuffed with pepper, weighed only four ounces and a quarter; yet the naked part of the thigh measured three inches and a half, and the legs four inches and a half. It must be a matter of great curiosity to see the Stilt-Plover move, to observe how it can wield such a length of lever with such feeble muscles as the thighs seem to be furnished with. At best, one should suspect it to be but a bad walker; but what adds to the wonder is that it has no back toe. Now without that steady prop to support its steps, it must be liable, in speculation, to perpetual vacillations, and seldom able to preserve the true centre of gravity. . . . The old name of *Himantopus* is taken from Pliny, and, by an awkward metaphor, implies that the legs are as slender and pliant as if cut out of a thong of leather." I can easily conceive the delight and amazement of the good man at a sight so novel and curious, having myself participated in similar feelings on first meeting with a nearly allied species of this remarkable form, while wandering in the wilds of Australia; and well do I remember with what delight I watched the movements of a flock which, after running gracefully along the margin of the river Mokai, suddenly rose, turned, and flew back by me with their long red legs streaming out behind.

Since Gilbert White wrote, solitary individuals and small companies of this species have now and then visited the British Islands; such occurrences however, must, be regarded as purely accidental. But at only a short distance over the Channel (say, about 300 miles as the Crow flies), Long-legged Stilts may be seen in the spring and summer of every year, and no further off than Spain be found breeding in many places; for there, as in Italy, Savoy, Greece, and Turkey, it is common. In France, Holland, and Germany it is much less abundant, and, as with us, must be regarded as a mere wanderer; on the other hand, the avifaunas of India and Java comprise a bird of this form, so closely allied to the *H. candidus* as to be scarcely separable from it, but which may prove to be the *H. leucocephalus* of Australia.

From the brief but interesting notes respecting this species contributed to 'The Ibis' by Lord Lilford, the Rev. H. B. Tristram, Mr. Howard Saunders, and others, we learn:—that it is very abundant and breeds in the marshes south of Seville; that it is common in Malta in spring and autumn, numerous on the shores of Corfu and Epirus in March, April, and May, breeds in great numbers in the marshes near Spalatro, in Dalmatia, and undoubtedly in Turkey; that it resorts to the ditches of the oases in Northern Africa, and breeds abundantly in the northern Sahara; that stragglers are occasionally seen in Upper Egypt, small flocks found in the Delta and Faioum; and that it is not unfrequent and breeds on a small marshy lake near Jenin, in the centre of Palestine, where it remains throughout the year.

Of the occurrence of this species in Scotland very few instances are on record, the first being mentioned in Sir Robert Sibbald's 'Scotia Illustrata'; in Ireland, according to Thompson, it is extremely rare; in England, Mr. Yarrell notes examples killed in Anglesea, Devonshire, Dorset, Hampshire, Lincolnshire, and Norfolk: of those killed in the last-mentioned county, a full account will be found in the second volume of my friend Mr. Stevenson's 'Birds of Norfolk.'

Mr. A. E. Knox, after stating that a specimen of the Black-winged Stilt was killed on the 17th of May, 1859, on the banks of a small pond near the junction of Midhurst and Bepton Commons, says:—"As opportunities for observing the habits and manners of these rare and accidental visitors so seldom occur, I make no apology for detailing some circumstances which appear to me to be especially worthy of notice, as tending to throw light on its remarkable and, to the ordinary observer, grotesque external conformation.

"The pond to which I have alluded is very shallow, the depth of the water, even at fifteen paces from the shore, scarcely exceeding a foot. About that distance from the banks, the surface was covered with numerous blossoms of the Water-Crowfoot (*Ranunculus aquatilis*). On examining these next day and frequently afterwards, I found them inhabited by numerous minute Dipterous and Coleopterous insects (small flies, midges, and beetles) comfortably nestled at the bottom of the flowers among the stamens, from which, indeed, none but the most delicate and attenuated instrument would be capable of extracting them without at the same time injuring the blossoms. Now, not one of our wading or swimming birds, except the Stilt, possesses a beak perfectly adapted to this purpose. But the Stilt has a bill almost as finely pointed as that of a Humming-bird; and those which make the nearest approach to it, as some among the smaller *Tringa*, want the accompaniment of length of limb (that unusual development of *tibia* and *tarsus*) to enable them to wade to a sufficient distance from the shore.

"The bird was first noticed by an intelligent lad, the son of a small farmer of the name of Pearson, while driving the cows home to be milked in the evening. It was then standing nearly up to its belly in the water, and rapidly extracting the insects from the flowers, or, as the boy supposed, picking the petals themselves. It allowed him to approach within twenty yards before it took flight, when it extended its long red legs behind it, after the manner of a heron, and, alighting again on the opposite bank, immediately commenced wading out to the water-plants. Young Pearson then hastened home to his father, who lives at a short distance from the pond; and the latter, hurrying to the spot with a loaded gun, found the bird employed as before among the flowers of the Water-Crowfoot. But it was now exceedingly shy and wary, flying from one side of the pond to the other before Pearson could get within shot (but never uttering any cry or sound), so that he found it necessary to endeavour to "stalk" the bird. This a newly made ditch and bank, one end of which approached within a few yards of the water's edge, enabled him to do successfully. On raising his head above the bank just before he fired, he perceived the Stilt within twenty yards of him, knee-deep in the water, in the midst of a cloud of gnats and midges, at which it was snapping right and left, much after the manner of a dog when teased by the flies in hot weather. The bird, fortunately but little injured by the shot, was brought to me the following morning, and, on dissection, proved to be a female. The ovarium contained several eggs, the largest of which was about the size of a pea. The stomach was crammed with beetles and gnats in a half-digested state, the *elytra* of the former showing that different species had been captured. I could not help being struck with the remarkable tenuity of the tips of the mandibles, as well as by the more obvious peculiarity from which the bird has derived its trivial name (the extraordinary length of its legs); but after listening to the simple story of George Pearson and his son, I perceived that the mystery was solved, and that here was a new instance of the wonderful adaptation of means to an end, of structure to habits, such interesting examples of which are continually presenting themselves to the observant naturalist."—*Ibis*, 1859, p. 395.

Mr. Salvin says:—"Over the whole of the lower end of the marsh of Zana and Chot Saboun the Stilt breeds in great abundance amongst the wet grass, choosing for the position of its nest a small tuft, so as just to keep the eggs out of the water.

"The bird uses its long legs with much greater ease than might be expected; and its long delicate strides, as it stalks about in search of food, are far from being ungraceful. The only time they seem to be in its way is at the moment of taking flight, when they hang awkwardly down till the bird, being fairly started, stretches them out far beyond the tail.

"The young Stilt is able to walk almost immediately on leaving the egg; one we found was capable of moving about while the other three were struggling to free themselves from the shell. The nest is composed of a few bits of dead reed or grass. The complement of eggs laid by one bird is four." (*Ibis*, 1859, p. 361.) They are of a buffy stone-colour, thickly blotched all over with purplish black.

My specimens of *Himantopus candidus* from North Africa, which have the back of the neck nearly white, indicate that the female has the back brown instead of rich greenish black as in the male. For the loan of the young bird represented on the opposite Plate, I am indebted to the kindness of A. W. Crichton, Esq.

The larger figures are those of the two sexes, of the size of life.



CETICNEMUS CREPTANS.

Howard & H. Richter del. & lith.

Walter, Imp.

ÆDICNEMUS CREPITANS.

Stone-Plover, or Thick-knee.

Charadrius ædicnemus, Linn. Syst. Nat., tom. i. p. 255.

Otis ædicnemus, Lath. Ind. Orn., vol. ii. p. 661.

Fedoa ædicnemus, Leach, Syst. Cat. of Indig. Mamm. and Birds in Coll. Brit. Mus., p. 28.

Ædicnemus crepitans, Temm. Man. d'Orn., 1815, p. 322.

Ædicnemus desertorum et *Æ. arenarius*, Brehm, Vög. Deutschl., p. 539.

———— *griseus*, Koch, Baier. Zool., vol. i. p. 266.

———— *indicus*, Salvadori, Att. Soc. Ital. Sc. Nat., 1866, tom. viii

———— *Belloni*, Flem. Hist. of Brit. Anim., p. 114.

THE European Stone-Plover (or Thick-kneed Bustard, as it is commonly called) is a bird of considerable size, and one which, in my opinion, is unusually interesting, its large lustrous eyes, long and well-proportioned legs, and ample wings rendering it very graceful in appearance. It is a shy, wild creature, preferring the most stony fields and chalky downs to alluvial flats and cultivated districts, is very locally distributed over England, is not found in Scotland, and is extremely rare in Ireland. Here in England it is more often heard than seen, and would rarely be detected did not its peculiar whistling note, which is most frequently uttered in the night, betray its presence.

Its usual position in the daytime is in the centre of the largest fields of the uplands (not unfrequently among the thin crops of turnips or the few cereals that struggle for existence in such localities), in warrens, and in heaths. “According to the Hon. and Rev. W. Herbert, the Stone-Plover is found only on chalk or on ploughed land where there is a chalk subsoil. Whether this be an invariable rule or not, I must leave to others to determine; but it is a remarkable fact that in Middlesex, where there is but little chalk, the Stone-Curlew is a very scarce bird.”

Some ornithologists have questioned whether this bird is a migrant, or if it be a stationary species in our island; it is certain, however, that, if a migratory movement to other countries takes place in autumn, a certain number stay with us, and merely remove from one part of the country to another; at least, such is the inference I deduce from the notes I have received from various correspondents.

“In Berkshire,” says Mr. Hewett, “the Stone- or Norfolk Plovers arrive in spring, and soon form nests by scratching holes in the ground; they remain till September, when they leave.”

“It is singular, but quite true,” says Mr. Rodd, “that this species has never, to my knowledge, occurred in Cornwall in the summer season; at that time the bird is entirely unknown to us, being neither heard nor seen, although, year after year, specimens are procured in the depth of winter. The migratory movement of this bird is, no doubt, similar to that of others which come to us in the breeding-season, and retire again in the autumn and towards winter to the southern countries of Europe and the north of Africa. The only way to account for the regular hyemal visits of the Great Plover to this district is, that the extreme southern latitude of the British Isles, which may be included between the Lizard Point and the Land’s End, is the exact northern boundary of the space occupied by the species in its winter-quarters.”

“A pair of Stone-Plovers,” says Mr. Philip Crowley, of Alton, “were shot at Holybourne on New-Year’s day. Their plumage was much brighter than one I have, which was killed in the summer. They generally leave here about the middle or end of September; at least I have never seen or heard of any after that time.”

“A friend of mine,” writes Mr. W. Brodrick, of Ilfracombe, Devon, “shot a Norfolk Plover (*Ædicnemus crepitans*) on Braunton burrows, about ten miles from this place, on Monday last (Jan. 18th, 1858). It was a male bird in perfect plumage and condition. The stomach contained the remains of small beetles.”

In our islands it is almost in England alone that this bird is to be found. On the continent of Europe its distribution is more general; and it is equally numerous in North Africa, Palestine, Asia Minor, Persia, and India; for I do not regard the species inhabiting the latter country as different: if I did, I must then separate the bird I killed in Malta, as it varied from both English and Indian specimens, though so slightly that it could only be regarded as a local variety. I might quote from twenty writers the accounts they have given as the result of their acquaintance with this bird in various parts of North Africa, Malta, Spain, Portugal, Italy, and France; but I will end this part of its history by a few lines from Temminck, who, speaking of its distribution, curtly says:—“Abundant in the middle of France, in Italy, Sardinia, the Archipelago, and Turkey; occasionally in Germany, and very seldom met with in Holland.”

The late Mr. Salmon, in his notice of the arrival of migratory birds in the neighbourhood of Thetford, in

Norfolk, says :—“The *Ædicnemus crepitans* is very numerous distributed over all our warrens and fallow lands during the breeding-season, which commences about the second week in April, the female depositing her pair of eggs upon the bare ground, without any nest whatever. It is generally supposed that the males take no part in the labour of incubation ; but this would seem to be incorrect ; for, wishing to procure a few specimens in the breeding-plumage, I employed a boy to take them for me : this he did by ensnaring them on the nest ; and all he caught proved, on dissection, to be males. They assemble in flocks previously to their departure, which is usually by the end of October ; but should the weather continue open, a few will remain to a much later period. I started one as late as the 9th of December in the winter of 1834.”

Valmont Bomare states that in France “the Great Plovers arrive pretty early in spring. They settle on the dry grounds filled with stones, among fallows and stubbles, preferring low hills and sloping fields. During the day they keep themselves concealed and crouched on the ground ; but at sunset they put themselves in motion, and are then heard to commence their cries, which they do not cease to repeat during the fine summer nights. When surprised, they run with extreme rapidity, fly low and but for short distances, are very wild and not easily approached. The female lays two or, at most, three eggs, in the midst of pebbles or gravel in some depression of the ground, or in a hollow which the birds have formed by scraping. It is said that they sometimes have two broods in the year, that incubation continues for a month, and that the growth of the feathers is slow in the young ; they are, in fact, nearly full-grown before they can fly, their wing-feathers not having yet sprouted ; but they run in this state with great lightness, and at this age appear as stupid as they are timid.” In November the Great Plovers set out on their journey to warmer climates ; and it appears that even in summer they do not advance far northward.

The food of the Stone-Plover is extremely varied ; but mainly consists of slugs, grasshoppers, crickets, grubs, coleopterous and other insects, to which are added mice, lizards, and, doubtless, young birds. As an article of food, my friend J. W. Larking, Esq., informs me its flesh is most excellent : and from the many opportunities he has had of testing it during his long sojourn in Egypt, where the bird is very common, he is no incompetent judge.

Mr. Jerdon states that “the well-known Stone-Plover of England occurs in most parts of India, down to the extreme south, frequenting bushy wilds, cleared spots in jungle, low, stony, and jungly hills, and occasionally patches of grass with bushes interspersed, but, generally, in some retired and secluded spots. It is more rare in lower Bengal and in Malabar than in most other districts. When a flock of these birds is disturbed, they fly a short distance and then run and hide themselves, occasionally squatting so close as to have received from the Tamuls the name of *Jungle-hare*. They are permanent residents in India. It is a favourite quarry for the Shikra Falcon with the natives, for which its habit of lying close well adapts it, and it generally falls an easy prey. It is excellent eating, being very high-flavoured, and has received the name of Bastard Florikin among some sportsmen in the south of India. It feeds almost entirely upon insects, is quite nocturnal in its habits ; and its wild long cry may frequently be heard at night, close to many stations where you may hunt long without finding it in the day-time.”

The eggs, which are about two inches and a half in length by an inch and a half in breadth, are of a pale greyish brown, blotched, spotted, and streaked with dark brown and purplish grey ; and so closely do they and the young chicks (in their downy state) assimilate to the colour of the materials around, that both are very difficult of detection.

I regard the fact stated by Mr. Salmon, that the male takes part in the performance of incubation, as most interesting ; it is well known that the males of the Ostrich, Emu, and other struthious birds act in a similar manner. The trivial name of Thick-knee, given to this bird, is only applicable to its youthful state ; when fully adult the legs are as fine as in any other Plover.

The sexes are alike in colour, and differ but little in size. The young birds, in their downy state, are very curious and interesting, both in their appearance and colouring—the latter being of a light mottled stony hue, diversified by conspicuous longitudinal lines of black across the forehead, down the neck and back, and along the flanks.

The Plate represents an adult and two young birds, of the natural size, with an adult flying in the distance, from a drawing by Mr. Wolf, and not, as stated on the Plate, by Gould and Richter.



SQUATAROLA MELANOCEPHALA.
See new species.

W. & H. B. R. 1850, vol. 1, p. 101.

W. & H. B. R. 1850.

SQUATAROLA HELVETICA.

Grey Plover.

Tringa squatarola, Linn. Faun. Suec., p. 66.

—— *helvetica*, Linn. Syst. Nat., tom. i. p. 250.

—— *varia*, Linn. Syst. Nat., tom. i. p. 252.

Charadrius hypomelas, Pall. Reise, tom. iii. p. 699.

—— *pardela*, Pall. Zoog. Rosso-Asiat., tom. ii. p. 142.

—— *squatarola*, Naum. Vog. Deutschl., 1838, tom. ix. p. 249, tab. 178.

Vanellus melanogaster, Bechst. Naturg. Deutschl., tom. iv. p. 356.

—— *helveticus*, Bonn. et Vieill. Ency. Méth., Orn., part iii. p. 1077.

—— *griseus*, Jenyns, Man. Brit. Vert. Anim., p. 181.

—— *squatarola*, Sieb., Temm. et Schleg. Faun. Jap., Aves, p. 106.

Squatarola helvetica, Brehm, Vög. Deutschl., p. 554.

—— *grisea*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 29.

—— *cinerea*, Flem. Hist. of Brit. Anim., p. 111.

—— *varia*, Boie, Isis, 1822, p. 558.

Pluvialis squatarola, Macgill. Man. of Nat. Hist., Orn., vol. ii. p. 48.

A GREATER transformation in the garb of birds does not exist than occurs in the vernal and autumnal plumage of this bird. The accompanying illustrations will show this better than I can explain it in writing. It is true that a change of the same kind and almost to the same extent occurs in the Golden Plover; but the transformations of the Grey are still more remarkable, since it is dressed in a third state of plumage during the first autumn of its existence, at which time it is speckled with black and yellow on the head, breast, back, and upper surface of the tail-feathers. In this yellow stage the young might be supposed by the casual observer to be Golden Plovers; but such is not the case; and were any positive evidence required on the subject, the presence of a small hind toe on the foot would convince the most sceptical. It is in spring that the Grey Plover, with its fine black breast, passes over the eastern parts of England *en route* for countries further north, on its return from which it again makes our island its resting-place, some few remaining here for a winter residence. To say that its summer home and its eggs have never been found by any British ornithologist, however far north he may have travelled, would be about the truth; and it is but lately that we have been informed of the discovery of the eggs by the Russian naturalist, Von Middendorff. That the individuals which visit us proceed to very high latitudes for the purpose of breeding, there can be no doubt; and we are yearly in hopes of receiving additional information on the subject. Now, what I have said of the bird's two visits annually to England is to a great extent equally descriptive of its occurrence in central Europe and, I believe, in India, China, and the temperate portion of America. To show how widely the bird is dispersed over the face of the globe, I may mention that it is found as far south as Australia, and in almost the extreme south of Africa; for we learn from Mr. J. H. Gurney that it occurs at Port Natal; and not only does it inhabit the northern portions of America, but, Mr. Salvin informs me, it has been discovered near to, if it does not overstep, the Isthmus of Panama. In all these southern countries it is seen in its winter dress only; it is in the north, and the north alone, that we meet with the bird in its black-breasted costume.

As the Grey Plover, during its visits to our islands, is perhaps more numerous in Norfolk than elsewhere, I think it only just to the historian of the birds of that county to insert here what he has written respecting it. "The Grey Plovers," says Mr. Stevenson, "though, as compared with the Golden Plover, at no time very numerous, visit us regularly in autumn, and usually make their appearance on Breydon and other parts of the coast about the first week in October. Mr. Dowell, however, states that in August, 1852, he observed several frequenting the 'freshes' at Blakeney which still retained their full summer plumage; and I have occasionally seen young birds in September, as early as the 17th, which at that time exhibited, in their first plumage, a great resemblance to the Golden Plover, for which, in this stage, I have no doubt they are frequently mistaken. One of those in my own collection, killed on the 22nd of September, 1853, has all those parts of the plumage which are usually white in the adult bird more or less tinged with straw-colour. The large size of the bill, the presence of the hind toe, and the long feathers under the wing being black instead of white as in the Golden Plover, distinguish this species at any age.

"A few are seen on Breydon Broad throughout the winter, but, as Mr. Frere informs me, not often as many as twenty or thirty at a time. Mr. Dowell describes them as mostly seen in pairs, which, joined to

their shyness, renders them 'much less profitable to the fowler than the Golden Plover; and they are moreover a great plague to the gunners by putting up other birds.' He also adds that, although rarely congregating amongst themselves, 'they delight to consort with Dunlins, Knots, or, indeed, any birds of that kind.' The Grey Plover differs also from the Golden in being essentially a bird of the coast, stragglers only, and those very rarely, being seen inland. . . . About the first week in May these Plovers again make their way northward, having at that time nearly completed their full summer dress; and in cold, backward seasons many beautiful specimens are procured on Breydon, with Red Knots and Godwits, as late as the 20th or 24th of May. On the 20th of May, 1853, I purchased one of the most perfect specimens I ever saw, in full nuptial plumage, the beautifully marbled appearance of the back and wing-coverts contrasting with the pure black on the neck and breast on either side as far as the point of the wing."—*Birds of Norfolk*, vol. ii. p. 101.

The Baron Droste-Hülshoff, in his work on the birds of Borkum, says the Grey Plover "is a fine lively bird and carries its head and body erect, with the breast thrown forward. Before rising it always lifts the wings high above the head. Its flight is peculiarly swift, more so than that of most shore-birds. It flies off in a straight line, then approaching and then again leaving the ground in easy dips. It extends the wings far, and flies with powerful strokes. On the wing it appears thick-headed, slight in form, and with very pointed wings, apparently bowed into a sickle-shape, the black axillaries showing very conspicuously. Its call-note is a sharp whistle, *Tlj-e-ih*, which cannot be mistaken for the *Tliii* of the Golden Plover; the final note is very softly sounded. On the wing they repeat the note with long pauses; and sitting, they call to each other, and repeat the latter portion when any of their own species settle down beside them. It is a very watchful and shy bird, and carefully avoids every suspicious-looking mound, seldom approaching a place where the sportsman is hid; it is therefore the sentinel of other shore-birds, which it warns by its sudden flight and loud alarm-note. In the autumn it frequents the shores only, going on the grass when driven by high tides; but in the spring it frequents the meadows, and seldom visits the shore. On the edge of the water it seeks its food, in the foam, wading up to its belly in the water."

Von Middendorff, to whom we are indebted for our knowledge of the bird's nesting-habits, gives the following account:—"Earlier than the 25th of May none of these birds were observed on the Boganida; and on the 20th of June the females were sitting on their nests (formed by collecting together dry leaves and grasses), in which were four eggs. In form they agree with those of the Lapwing (*Vanellus cristatus*) and the Dotterel (*Charadrius morinellus*), but are larger than either, though in this respect they differ considerably. Sometimes the smallest eggs of the Grey Plover are exceeded in length by those of the Golden Plover; but the latter are invariably narrower; nor does the colour offer any distinctive mark. The ground-colour is sometimes yellowish grey, at others brownish yellow, and the dark brown spots are distributed as on the eggs of the Golden Plover."

"The egg of this cosmopolitan species," says Professor Newton, when exhibiting an example at a meeting of the Zoological Society, "has confessedly been one of the rarest and most sought for by collectors. The specimen I now have the pleasure of exhibiting was sent me a few months ago by my friend Dr. Baldamus, who received it from Councillor Middendorff. This intrepid traveller states that the bird breeds on the Byrravgá Mountains in lat. 74° N., as well as on the Boganida in lat. 71° N. He found a nest on June the 26th with four eggs. My specimen is, I believe, a good deal under the average size, yet it is more bulky than any Golden Plover's I have, thereby confirming Von Middendorff."

Nilsson considers that the Grey Plover proceeds very far north to breed, returning through Sweden in August. It visits also Norway, the Faroe Islands, Iceland, and Greenland. Dr. Richardson states that it was found breeding on Melville Peninsula in June; and Captain James Ross that it "was found by us breeding near the margins of the marshes immediately to the south-west of Fury-Point in considerable numbers. Some specimens were also obtained near Felix Harbour."—*Appendix to the Narrative of the Second Voyage of Sir John Ross*.

Lord Lilford, in his valuable paper on the birds observed by him in the Ionian Islands, says "this bird has a curious habit, which I do not recollect to have seen mentioned in any work on ornithology, of throwing somersaults in the air in the same manner as the Tumbler Pigeon and Roller. I noticed this particularly in March 1867, in the Gulf of Arta, where a few of this species are generally to be seen."

One of the accompanying Plates represents the bird in full summer dress; the other the costumes of the first autumn and winter. The larger figures on these Plates are of the natural size.



Illustration del et uli.

SQUATARIA HETVELTICA.

Plumage of Winter and young of the year

Water, Imp.



CHARADRIUS PLUVIALIS, Linn.

Walter J. Cohn, Imp.

Summer plumage.

Wm. J. Audubon del. et lith.

CHARADRIUS PLUVIALIS, *Linn.*

Golden Plover.

Charadrius pluvialis (winter) et *apricarius* (summer), Linn. Syst. Nat., tom. i. p. 254.

Pluvialis apricarius, Bonap. Compt. Rend. de l'Acad. des Sci., tom. xliii. (1856) p. 34.

———— *aurea minor*, Briss. Orn., tom. v. p. 47.

———— —, Macgill. Hist. Brit. Birds, vol. ii. p. 94.

———— *auratus*, Suckow, Naturg. der Thiere, tom. ii. p. 1592.

IN commencing the history of the Golden Plover, shall I speak of it in an Epicurean sense, as being one of our best birds for the table, and as playing a part in commerce equal to that of the Snipe and the Woodcock? shall I approach the subject with an account of its habits and economy during the months of winter, when it assembles in flocks, and runs over our fallow fields and barren heaths? or shall I speak of it in the mountain-home where it spends the summer among flowery ling and heather-bells, where it sends forth its pipe to the antlered monarch, trips beside the blue hare, or tilts with the Grouse that may approach too near its nesting-place? At this period its vesture of black is beautifully relieved by streaks of white and spangles of yellow, and the bird is in its greatest beauty. Few persons are aware that the Golden Plover undergoes a seasonal transformation. Linnæus and many of the older authors considered that these very distinct plumages were indications of specific distinctness: but it is my place to depict the remarkable differences which occur in the summer and winter liveries of some of our native birds; and the present is one of them.

I believe the opinion is entertained that purity of colour and richness of markings depend in a great measure upon elevation, the clearness of the atmosphere and the non-obstruction of the rays of light; whether this be correct or not, I have always found that the greater the elevation a bird frequents, be it a Ptarmigan or a Plover, the richer are the tints of its plumage in summer, and the greater the contrast of its winter dress. These features, too, are still more apparent among continental than island examples; thus the Ptarmigan and Golden Plovers of Norway are far finer, and undergo a more complete change in summer and winter, than those of Scotland or Ireland. The like is the case with other birds, of which I could cite numerous instances, were it necessary. I enter into these little digressions, because I believe they are not without their interest, and for the sake of variety; for the habits of our native birds have been so repeatedly and so ably described, that the subject is well-nigh exhausted.

About the fall of the leaf, or when autumn presages the coming winter, the Golden Plovers, both adults and young, leave the misty mountain-side, and, assembling in flocks, visit every portion of the central and southern districts of England, from the Cheviots to Cornwall. It may now be seen in all the open moorlands, fallow fields, commons, and great marshes, such as those which occur in Lincolnshire, Norfolk, and Suffolk, on the sandhills near the sea-shore and the muddy flats left by the receding tide. Its great powers of flight enable it to pass over vast distances with such rapidity that, while at one moment it may be seen on the sea-shore, in half an hour's time it is miles away on some upland waste. The bird has now put on its winter livery, is very fat and in fine condition for the table, but continues to improve in this respect from the commencement of the autumn frosts until the ensuing February, when an entire change in its disposition occurs. "Coming events cast their shadows before:" the return of the sun induces it to remove to other localities, and to prepare for the performance of a more important duty—that of breeding. The assumption of the summer dress now commences with the appearance of black feathers on its previously white breast and throat, both sexes being under the same influence. By the end of April or the beginning of May most of the Golden Plovers have left the lowlands, some resorting to the Cheviots, others to the Grampians, the wilds of Sutherlandshire, and as far north as favourable situations occur, some even proceeding to Iceland. In Ireland the habits of the bird are precisely the same as in our own island, inasmuch as it spends the summer among the hills, and the autumn and winter on the lowlands and the sea-shore. Mr. Alfred Newton affirms that the bird certainly breeds in Yorkshire, and probably in Derbyshire also. Macgillivray has given so graphic a description of the habits of the Golden Plover, as witnessed by him in the summer, that I shall not hesitate to transcribe it here. "Amid the wild scenery of the rugged hills and sedgy valleys, the mellow notes of the Plover come gently and soothingly on the ear, and you feel, without being altogether conscious of its power, that it soothes the troubled mind as water cools the burning brow. As you listen to it, now distant, now nearer, and see the birds, with short flights, approaching as if to greet you, though in reality with more fear than confidence, with anxiety and apprehension, the bright sunshine that glances on their jetty breasts is faintly obscured by the white vapours that have crept up from the valley, and presently all around us is

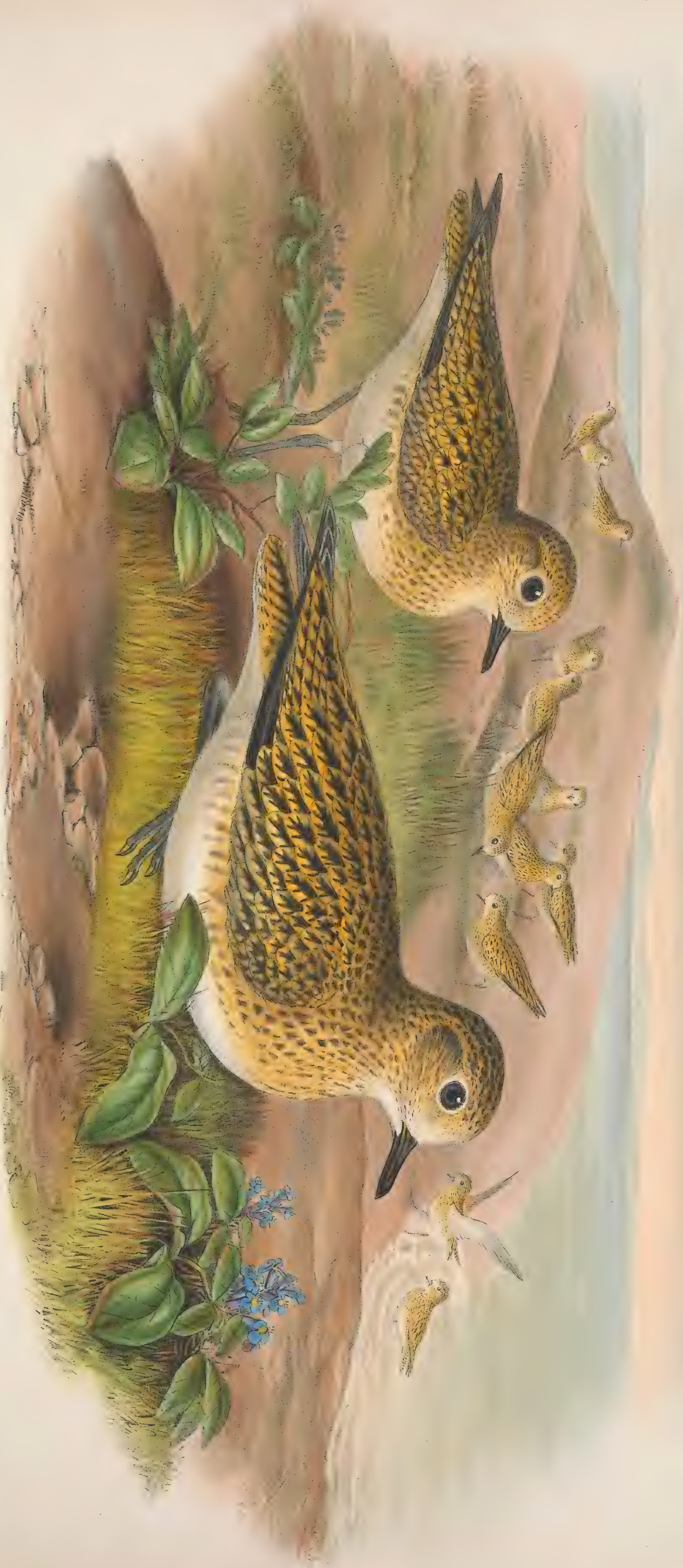
suffused with an opaline light, within the confines of which a bird is dimly seen to advance, then another and a third. Presently a breeze rolls away the mist, and discloses a number of these watchful sentinels, each on his mound of faded moss, and all emitting their mellow cries the moment we offer to advance. They are males, whose mates are brooding over their eggs, or leading their down-clad and toddling chicks among the, to them, pleasant peat-bogs that intervene between the high banks, clad with luxuriant heath, not yet recovered from the effects of the winter frosts, and little meadows of cotton-grass, white as the snow-wreaths that lie on the distant hill. How prettily they run over the grey moss and lichens, their little feet twinkling, and their full, bright, and soft eyes gleaming, as they commence their attempts to entice us away from their chosen retreats! The nest is a slight hollow in a tuft of moss or on a dry place among the heath, irregularly strewn with fragments of withered plants. The eggs, of which the full number is four, are placed with their small ends together. They are much larger and more pointed than those of the Lapwing, being, on an average, two inches and one-twelfth in length and one inch and five-twelfths in their greatest transverse diameter. The shell is thin and smooth, of a light-greyish or pale-greenish yellow or cream-colour, irregularly spotted, dotted, and blotched with dark brown, and sometimes having a few light-purple spots interspersed, the markings larger towards the broadest part. The young leave the nest immediately after they burst the shell, and conceal themselves by lying flat on the ground. At this time the female evinces the greatest anxiety for their safety, and will occasionally feign lameness to entice the intruder to pursue her. I have several times seen one fly off to a considerable distance, alight in a conspicuous place, and tumble about as if in the agonies of death, her wings flapping as if they had been fractured or dislocated. The eggs are delicious, and the young birds, when fledged, not less so."

I have incidentally alluded to, but perhaps not spoken sufficiently in detail of, the great difference in the dress of the Golden Plover at opposite seasons of the year. I may add, then, that the whole of those parts of the plumage which are black in summer become white, or white intermixed with yellow, in winter, and that the golden colouring of the newly moulted feathers becomes exceedingly conspicuous, particularly in the young of the year—a circumstance which has obtained for the bird its well-known name of Golden Plover. Another state of plumage also demands a passing notice—that in which the bird is decked during the first four or five days of its existence. To see the young in the beautiful colourings and markings which then adorn them, their own native hills must be resorted to. The wild aspect of these localities, with their frequent accompaniments of wind, mists, sleet, and rain, would seem to be but little suited to these delicate nestlings; but such is not the case, for they are perfectly hardy, and are in possession of all the energies necessary for their safety from the moment they are hatched. The mossy character, too, of the markings with which they are adorned tend to their preservation, since it closely assimilates in appearance to the surface of the ground and the objects surrounding their birth-place. Should any of my readers desire to view the Golden Plover in all its beauty, let them repair to the Dovrefjeld, in Norway, by the 1st of July, and they will there find it in its gayest dress, with its young just hatched. No fear of disappointment need be entertained; for the bird is very plentiful in this bleak moorland, up to an elevation of from five to six thousand feet. There they will also find the White Grouse, the Redwing, the Fieldfare, the Blue-throated Warbler, and a host of other birds breeding, which will interest them, to say nothing of one of the wildest scenes in nature, backed by the frowning Sneehatten in the distance. Should such a journey be incompatible with their convenience or pleasure, let them betake themselves to the Grampians, on many parts of which the bird breeds; but this locality is far less interesting than the one above-mentioned, in Norway, my visit to which will always be remembered with feelings of pleasure.

It might be supposed that a bird possessing such vast means of transport would enjoy a wide range over the face of the globe; but the reverse is the true state of the case; for we now know that the Golden Plovers of China, India, Java, Sumatra, Australia, and America, which were formerly believed to be identical with it, comprise several species, all of which are quite distinct from our bird, whose range extends over the whole of Europe, Asia as far eastward as Afghanistan, and Africa as far south as the equator.

To say that the flight of the Golden Plover is rapid in the extreme, that it overtops the hills in flocks, and descends down the valleys like a shower of stones, that it trips over the ground with the utmost celerity, that it feeds more by night than by day, that its food consists of worms, insects, and their larvæ, that its weight is from seven to nine ounces, that the female exceeds her mate in size, and that she lays four large eggs, would not be adding to our stock of ornithological knowledge, since these points are as well known to every one acquainted with our native birds as to the writer of this chapter.

It will not be necessary to append a lengthy description of the colouring of the adults, since their appearance in summer and winter is correctly delineated on the accompanying Plates; but I may mention that the young birds at two days old are exceedingly pretty, having all the under surface, part of the wings, two stripes down the back, a space under the eye, a line along the forehead, and the back of the neck white, the remainder of the plumage marbled with orange and black; the legs purplish flesh-colour; and the bill rather darker. One of the two accompanying Plates represents a male, a female, and four young birds, all of life-size, in their summer dress; the other represents the bird as seen in its winter costume, with a number of reduced figures in the distance.



CHARADRIUS PLUMBEALIS, Linn.

Winter plumage

Water & color, Jupp

Illustrated by J. J. Audubon



ÆGIALOPHULUS CANTIANUS.

ÆGIALOPHILUS CANTIANUS.

Kentish Plover.

Charadrius cantianus, Lath. Ind. Orn. Suppl., p. lxxvi.

———— *albifrons*, Meyer, Taschenb. deutsch. Vög., tom. ii. p. 323.

———— *littoralis*, Bechst. Naturg. Deutschl., tom. iv. p. 430, tab. 23. figs. 1 & 2.

———— *Alexandrinus*, Hasselq. Reise, p. 213.

Ægialitis cantianus, Boie, Isis, 1822, p. 558.

———— *albifrons*, Brehm, Vög. Deutschl., p. 551.

———— *albigularis*, Brehm, ibid., p. 553.

“THIS little Plover,” says Yarrell, in his ‘British Birds,’ “was first described and named by Dr. Latham in the ninth volume of his ‘General History of Birds,’ p. 328, from specimens sent him by Dr. Boys, which had been killed at Sandwich, in Kent, in the years 1787 and 1791, in which locality the species has several times been obtained. In May 1830 Mr. George Clayton, of Rochester, found it in pairs at Pegwell Bay and on the Sandwich Flats; it has also been met with on the shelly bank, towards Sandhurst Castle and Deal, whence I have seen specimens. The Ringed Plover is common in the same localities; but the Kentish Plovers may be readily distinguished when on the ground by their smaller size. Though they mix together when feeding, Mr. Clayton says the two species do not fly in company.” “The egg,” Mr. Yarrell states, “is correctly figured by Mr. Hewitson, in his well known work the ‘Eggs of British Birds.’ I possess two eggs of this species, given me by Dr. Pitman, obtained with others on the Sussex coast; these are one inch and three lines in length by eleven lines in breadth, of a yellowish stone-colour, spotted and streaked with black.”

The above is probably the earliest record of this interesting species; and I have considered it only just to the late Mr. Yarrell to repeat the information he has given to the world.

Mr. Stevenson, in his ‘Birds of Norfolk,’ after recapitulating some of the instances of its occurrence as stated by Yarrell, Mr. Clarke, of Saffron Walden, the late Mr. Hoy, and Mr. J. H. Gurney, proceeds to say:—“I have not had the opportunity of examining specimens of this bird in the flesh; but Mr. Gould describes the bill and legs as hard and black, whilst the same parts in the Ringed Plover are pulpy and yellow; and in all plumages the former may be recognized by the white of the breast extending upwards to the chin without any interruption, which is not the case with the Ringed Plover.”

I am somewhat surprised that Mr. Stevenson has never had fresh Norfolk examples of this bird, since from 1828 until within the last few years I have been in the habit of receiving specimens along with other shore-birds direct from Yarmouth, where I know they had been killed by the gunners who eke out a living by shooting birds for the London collectors.

If we compare the Kentish Plover with the Ringed Plover (or the Ringed Dottrel, as it is more frequently called), we find certain structural differences which, although they may be slight, doubtless have some influence over their habits and economies. On this head I may repeat here what I said in my ‘Handbook to the Birds of Australia,’ published in 1865:—“In accordance with the spirit of minute subdivision, which now pervades all branches of natural science, I have for a long time considered that the small Plovers hitherto comprised in the genus *Ægialites*, of which the *Æ. hiaticula* is the type, required a further subdivision; I therefore propose the term above given (*Ægialophilus*) for the *Æ. cantianus* of Europe, and to associate with it the *Æ. ruficapillus* of Australia. There are many other species of this form, all or nearly all of which have black bills and long legs, and are less banded with black on the under surface than the members of the genus *Ægialites*. They have a different note, are nimble of foot, and affect situations bordering the open sea.”

The Kentish Plovers have longer legs and shorter toes, which are black and hard, instead of the former being pulpy and the latter yellow as in the Ringed Plovers; their eyes also are larger when compared with the size of the body. The situations the two birds affect when they come to us to breed are also very different, the Ringed Plovers dispersing themselves over shingly beds and sides of rivers, while the Kentish Plover keeps to the sea-shore, and deposits its eggs above high-water mark and out of the reach of the spray. Those who have seen the two birds alive in their native haunts cannot have failed to observe the difference of sites chosen by the two birds. The note of the Kentish Plover also is markedly different from the plaintive pipe of the Ringed Plovers, being more harsh and chattering. If they have not all been ruthlessly destroyed since the month of June, 1846, the reader may go to the little town of Lydd, on the coast of Kent, and thence to the shingles, and observe for himself both the species above mentioned.

I had no difficulty in finding the young of both kinds ; and it was from those there obtained that the figures in the accompanying Plate were drawn. The young as well as the old of these two Plovers also differ in the colouring of their soft parts and in the size of their eyes. The characteristic markings of their eggs, too, are also very different.

The visitor to Lydd will also see a fine colony of Black-headed Gulls in a rush-pit in the midst of the wastes, and both the Lesser and Common Terns in abundance. Had my visit to that enchanting spot been a year or two earlier, I might have observed the wandering Sand-Grouse, *Syrnhartes paradoxus*, flying to and fro ; for this was one of the localities they frequented when with us, and I had with me as a guide the person who committed the barbarous act of shooting some of them.

The Kentish Plover is a true spring migrant to our shores, and may be seen, at least sparingly, at that season on the coasts of Cornwall, Sussex, Suffolk, and Norfolk. It does not go so far north as Scotland ; but, according to Mr. Blake Knox, " it has been observed in a few instances during its migrations on the Dublin coast ; it is however, at all times a rare visitant to Ireland."—*Zoologist*, 1866, p. 301.

On the continent of Europe it is more abundant than with us. In some parts of Spain it is particularly numerous, and is found in still greater numbers over the whole of North Africa, and almost as far as the Cape Colony, as is evidenced by Mr. Anderson's 'Notes on the Birds of Damara Land,' p. 272, where he says, " This is rather a rare bird, and hardly to be found except on the sea-coast, in the neighbourhood of which it seeks its food on the open ground, interspersed with grass and aquatic herbage. It feeds on worms and insects, and also on the sandhoppers which abound on the beach of Walwich Bay, and of which it seems particularly fond. I have invariably found it in pairs, but have never met with its nest."

This species is also mentioned in Layard's 'Catalogue of the Birds of Ceylon,' p. 296 ; and, according to Messrs. Finsch and Hartlaub, it is found at Mozambique, *vide* 'Birds of East Africa,' p. 654.

As we learn from the writings of various authors, the Kentish Plover is particularly plentiful in India. Jerdon, when writing on the birds of this family, says it is more common than either *Ægialitis Geoffroyi* or *Æ. pyrrhorthorax*, " being more frequently found far inland on the banks of rivers and large tanks, but prefers the neighbourhood of the sea-coast and large rivers near their mouths. It has a wide geographical distribution over the Old Continent. *Æ. hiaticula*, *ruficapilla*, and *inornata* of Gould, from Australia, are members of this group ; and there are others." He then proceeds to remark, " The next group is that of the Ringed Plovers, which frequent dry sandy plains," clearly showing he considered these were two distinct but nearly allied forms—a view of the subject I myself took many years ago.

Mr. Swinhoe states, in his 'List of the Birds of China,' that the Kentish Plover is found on the coasts of that country in winter. This may be the case ; but I have seen specimens of a bird from thence which I consider distinct, but most nearly allied, and which certainly possesses characters that, if I may be allowed to speak from recollection, would render it necessary to give it a distinct specific appellation.

The sexes of the Kentish Plover are nearly of the same size ; and the average weight is about two ounces.

The Plate represents male and female, with young at the age of two or three days, of the natural size.



ÆGIALITIS BULATICA.

Walter Bay.

ÆGIALITIS HIATICULA.

Ringed Plover.

Charadrius hiaticula, Linn. Faun. Suec., p. 66.

———— *torquatus*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 28.

Ægialitis septentrionalis, Brehm, Vög. Deutschl., p. 548.

———— *hiaticula*, Boie, Isis, 1822, p. 558.

Hiaticula annulata, G. R. Gray, List of Gen. of Birds, 1840, p. 65.

———— *torquata*, G. R. Gray, List. of Spec. in Brit. Mus. p. 68.

THE Ringed Plover is so generally dispersed along the sea-coasts of the British Islands that it would be difficult to say on which of them it could not be found. Mr. Rodd describes it as “generally distributed along the shores of Cornwall, and very often associated with Dunlins; breeds early; eggs found in Scilly in April.” From this locality, the most south-westerly of our counties, it is found throughout England and Scotland to the Orkneys; it also frequents the Western Islands and Ireland. It is a stationary species, and is to be met with both in winter and summer. It usually breeds on the shingly portion of the beaches, but frequently along the sides of the larger rivers, and, moreover, often proceeds to the wastes and warrens of the interior, where it may find any attractive spot whereon to deposit its eggs and rear its young. The other countries it inhabits are Iceland and Europe generally, to within the Arctic circle; and it crosses over the Mediterranean to Africa, occurring there as far south at least as Mozambique and Walvisch Bay. I am rather surprised that it is not included by Jerdon in his ‘Birds of India,’ nor by Mr. Holdsworth in his ‘List of Ceylonese Birds;’ neither does Mr. Swinhoe appear to have seen it in China. On reference to my ‘Handbook to the Birds of Australia,’ it will be found that I possess a specimen killed at Port Stevens, in New South Wales; it would be somewhat strange, therefore, if it should ultimately prove that the Ringed Plover does not inhabit either India or China: it must surely be at least a casual visitor to those countries.

An opinion is pretty general that a second species of Ringed Plover arrives on our southern coast in spring, and either remains to breed here, or proceeds to regions further north for this purpose. On this head I have received letters from various correspondents, some assuring me that the smaller bird is quite distinct from the larger, while others express their doubts about regarding it as such. The specimens of the old and young Ringed Plover figured on the accompanying Plate, were taken from examples of the larger and indigenous bird collected by myself on the Great Shingle at Dungeness Point on the coast of Kent, June 12th, 1864; and as the drawing was made on the spot the colouring of the soft parts of both may be depended upon. I must remark that although there were several broods on the shingle of the same age as those I have figured, which had not left the shell more than a day or two, there were others running about that were nearly fledged and able to fly, clearly showing that some of the paired birds had incubated their eggs at an earlier period. I have, from time to time, weighed many of the old birds of this species, and taken admeasurements of a still larger number, in order to ascertain the comparative weight and size of the sexes, but without any satisfactory result, some of the males being heavier and larger than the females, and *vice versa*. The largest bird proved to be a female; but this large size did not appear to be constant in that sex. Mr. Harting also kindly weighed for me six specimens shot by himself at Pagham Harbour on the 3rd of December, 1867. These six birds were evidently adult, as they had black rings round their necks, and the crescentic marks on their chests. The following are the weights and the colouring of the outer tail-feathers (which was supposed to be a character of importance) of the six specimens in question:—

	Weight.	Colour of outer tail-feathers.		Weight.	Colour of outer tail-feathers.
No. 1. Female	1160 grains.	White.	No. 4. Male	1080 grains.	Dark spot.
No. 2. Male	1120 „	White.	No. 5. Male	1030 „	Dark edge.
No. 3. Female	1100 „	White.	No. 6. Male	980 „	Faint spot.

Difference between heaviest and lightest = 180 grains.

The weight of the little species or race, as the case may be, of the Ringed Plover, taking the average of four specimens sent to me in the flesh by Mr. Swaysland on the 23rd of September 1867, was two ounces; but one of them weighed a quarter of an ounce more, and another as much less. As the question respecting there being one or two species of these Ringed Plovers on our coasts is still occupying the attention of British ornithologists, I shall here insert two notes I have received on the subject. The first is from Mr. George Dawson, of Brighton, who says, “with regard to these birds being only a *smaller race* of the larger, I do *not*, at *present certainly*, agree, because you may see a flock of sixty of the small ones at Shoreham at the time the larger birds have young ones; both kinds keep distinct; and the small (which I call *Charadrius*

medius) never breed at Shoreham now, or have not done so for many years. On the wing the difference is very apparent; the small kind are always dark on the back, the large light."

The next is from Mr. Harting, no mean authority on the subject:—"I have compared the Ring-Plovers received from you on the 24th ult. with several specimens of *Charadrius hiaticula* obtained from different localities and at different seasons; and although there certainly is a difference between them in respect of size and plumage, still it is a question whether that difference is sufficient to constitute a species.

"I was inclined to believe, at one time, that an examination of a sufficient number of examples would establish the fact that we had two species of Ringed Plovers under one name, *Charadrius hiaticula*; but I am now led to think otherwise, for the following reasons:—first, a character which was supposed to be constant (viz. the outer tail-feather) has proved to be not so, some of the birds obtained on the 24th ult. having the outer tail-feather on each side pure white, and others showing a dusky spot on the inner web of the same feather; secondly, the conviction that great allowance should be made for age, especially when we consider that the young of *C. hiaticula* are hatched as early as the first week of April and as late as the first week of June; thirdly, the effect which climate, soil, and food may have upon the young, according to the latitude in which they are hatched—those which are reared in the north (arguing from what has been observed of other species, for example *Alauda arvensis*) being generally finer and stronger birds than those reared further south.

"Were the peculiarities noticed in this case considered sufficient to constitute them a species, it would be necessary, upon the same principle, to separate the *Saxicola ænanthe* and some others.

"The question would then arise, 'Where is the line between species and variety to be drawn?' in other words, 'What constitutes a species?'—a question which is not easily answered."

Touching this subject, Mr. Robert Gray, in his 'Birds of the West of Scotland,' remarks:—"The variation in the size of this species has been a source of much perplexity to me. In the spring-time I have shot so many much smaller than the Ringed Plover which breeds with us that I have long thought, seeing they only appear in spring, that they must belong to a southern race.

From the above passage it is evident that the smaller Dottrel visits Scotland; and that the other one also does, I am certain; for the largest and finest skins I have in my collection were taken from specimens killed in Orkney and sent to me by the late Mr. J. H. Dunn.

Speaking of the habits of *Ægialitis hiaticula*, Mr. Gray goes on to state:—"I have nowhere been more interested with this bird than in the Outer Hebrides, a district throughout which it abounds at all seasons of the year. Towards evening in the month of September, when walking along the sandy bays of Benbecula, I have been startled with its cry, even after the sun had gone down and left all in comparative darkness. This note fell upon the ear with a strange effect as the flowing waves came seething up on the dry sand and disturbed the sleeping birds. That part of the coast being but little visited, the little Plovers were exceedingly tame and fearless, allowing me to walk within a few feet of them. Often I imagined that they met me in my walks, and alighted in wonderment near their extraordinary visitor. On several occasions, indeed, I observed them halt in their flight and sit down on the sandy expanse right in front, saluting me with a gentle whistle. On very warm evenings in autumn I have frequently been very much interested in watching the Ringed Plovers on the Girvan shore, feeding on sandhoppers. The numbers of these brisk little creatures living in the dry sand, and keeping up an animated dance for hours along some miles of the beach between Girvan and Turnberry, must have been immense, the line of high-water mark appearing as if covered with a dense smoke. On walking, indeed, into the midst of these countless myriads of jumping crustaceans, the noise is like that of a pelting hail-shower. Here the little Plovers soon finish their evening meal; and it is extremely amusing to see them catch their restless prey, and swallow them hurriedly, as they touch the ground."

With regard to the bird in Norfolk, Mr. Stevenson says:—"The Ringed Plover, one of our most interesting indigenous species, may be said to possess, at least in Norfolk and Suffolk, two distinct phases of existence, being found throughout the breeding-season not only on the coast but on the great sandy warrens in the interior, where its sprightly actions and melodious notes enliven those dreary wastes from about the middle of March up to the end of August, when young and old again retire to the sea-shore and the mouths of our tidal rivers till the time once more arrives for this strange inland migration."

The eggs of the Ringed Plover, which are generally four in number, are deposited in a hollow on the bare ground, and, according to Yarrell, are of a pale buff or cream-colour, spotted and streaked with ash-blue, and are one inch and five lines long by one inch and half a line in breadth.

The figures in the accompanying Plate represent old and young birds, about the size of life. The beautiful plant is the Sea-pea (*Pisum maritimum*).



ÆGIALITIS MINOR.

ÆGIALITIS MINOR.

Little Ringed Plover.

Charadrius minor, Meyer, Taschenb. Deutschl. Vög., tom. ii. p. 324.

——— *fluviatilis*, Bechst. Naturg. Deutschl., tom. iv. p. 422.

——— *curonicus*, Beseke, Vög. Kurl., p. 66.

——— *hiaticula*, Pall. Zoog. Ross.-Asiat., tom. ii. p. 144 ?

——— *intermedius*, Ménét. Catal., p. 53 ?

Ægialitis fluviatilis, Brehm, Vog. Deutschl., p. 549.

Ægialites curonicus, Keys. et Blas. Wirbelth. Eur., p. 71.

——— *minor*, Boie, Isis, 1822, p. 558.

It appears to me to be quite impossible to determine with any degree of certainty what is the correct synonymy of this little Plover, and, consequently, which of the various specific appellations that have been assigned to it should be retained. Temminck, Vieillot, De Selys-Longchamps, Boie, Bailly, Yarrell, and other authors adopt that of *minor*, applied to it by Meyer, while Keyserling and Blasius, Blyth, and G. R. Gray regard the bird as identical with the *curonicus* of Beseke, and therefore employ that name on the score of priority. By Bechstein and Brehm it is termed *fluviatilis*; and it may possibly be the *intermedius* of Ménétriés. The subject being thus involved in confusion, I have considered it best to employ the term *minor*, by which the bird is most generally known.

In the British Islands the Little Ringed Plover is but seldom seen, and must be regarded as a merely accidental visitor during its periodical migrations, nearly every instance of its occurrence having taken place in spring and autumn. On the continent of Europe it is numerous, and there, as well as in India and China, it is a regular migrant. From the vast powers of flight possessed by all the Plovers, we must not be surprised at learning that it is also found in Africa, being plentiful on the Nile and in the provinces of Algeria and Constantine. At this moment I have not only English specimens before me, but others from Germany, some from Egypt (kindly forwarded to me by Edgar Larking, Esq.), from India (sent by the late Lieut. R. C. Beavan), and also from China. It will be seen, therefore, that our Little Ringed Plover enjoys a most extensive range. Many of the habits of this species resemble those of the common *Æ. hiaticula*; but it differs in appearance when on the wing. Although frequently found on the shingly beaches of the coast, it is on the whole less maritime than its congener; for it rather affects the sides of inland waters, ponds, and reservoirs, and frequently ascends high up those rivers which rise far in the interior of the country, whether it be in Europe or India, in which latter country it is frequently seen on the sides of the numerous great tanks.

With the exception of Britain, the Little Ring-Dotterel breeds in all the countries above mentioned, depositing its four freckled eggs either on the bare shingle or among the scanty herbage growing in the situations it affects.

Mr. Harting tells me that, when on the wing, this species may be readily distinguished from the common one by the absence of white from the basal portions of the secondaries—a circumstance which renders it less conspicuous and more like the ordinary Sandpiper, *Tringa hypoleuca*. Little difference is observable in the size or colouring of the sexes; but I observe that one of the specimens forwarded to me by Mr. Larking, a female, has the bands on the crown and the crescentic mark on the chest but faintly indicated, and of a brown hue, instead of black.

The following notes were taken from a specimen sent to me in the flesh by Mr. Harting, by whom it had been killed at Kingsbury Reservoir, near Hendon, in Middlesex, on the 30th of August 1864. Several of the common species were on the side of the reservoir at the same time; and Mr. Harting observed that its note was not a double whistle like the note of that bird, but was similar to that of the Common Sandpiper. The thick and fleshy ring round the eye was of a bright straw-yellow; the bill black, with a tinge of fleshy yellow at the base of the under mandible; the eyes black, full, and round; the outer tail-feathers, instead of being wholly white (as is generally the case in the ordinary species), had a dusky spot on their inner webs; the primaries are of a uniform blackish brown, with the exception of the shaft of the outer one, which is white; while in the larger species the shafts of all the primaries are white.

The weight of this specimen, a young male bird of the year in capital condition, was $1\frac{1}{4}$ oz. and 65 grains, while that of a female of the Common Ring-Dotterel shot the same day was $2\frac{1}{4}$ oz.

I have stated in general terms that this bird enjoys a most extensive range; but it may be as well, per-

haps, to name here more particularly the countries in which it has been observed. Nilsson states that it occasionally visits Sweden in summer, Temminck that it is found in Germany and Central Europe; it certainly inhabits Provence and Italy; Bailly gives it a place in his 'Ornithologie de la Savoie'; Lord Lilford found it tolerably abundant in Corfu in April and May, particularly in the Val de Corissia and Potamo, but only remaining a few days; Mr. Wright says it is common in Malta and Gozo, where it arrives in March. Messrs. Dickson and Ross sent specimens to the Zoological Society from Erzeroum, in Persia, where it appears, remarks Yarrell, "to be numerous about the middle of June on the sandy and pebbly banks of the Aras, at Hassan Kaleh, eighteen miles east of Erzeroum;" Meyer states that it occurs in Nubia and Abyssinia, Mr. Swinhoe that it is abundant in China and Formosa; Von Schrenck includes it in the birds of Amoorland, and Temminck among those of Japan.

Although so widely distributed, and, as one would have supposed, having necessarily come under the notice of many observers, very little has been recorded of its habits. Mr. Hoy informed Mr. Hewitson that "it appears to be very rarely found on the sea-coast, but frequents in preference the banks of rivers, where it breeds. It lays its eggs on the sand, not a particle of grass or other material being used. It is very partial to sand banks forming islands, such as are often met with in some of the larger rivers on the Continent. It may also frequently be found during the breeding-season upon those large extents of sand which are met with at some little distance from the borders of rivers overgrown in part with a coarse wiry grass." Mr. Yarrell describes the egg as of a pale yellowish stone-colour, numerously spotted with bluish ash, reddish brown, and dark brown, and as measuring $1\frac{1}{8}$ inch in length by $\frac{7}{8}$ of an inch in breadth.

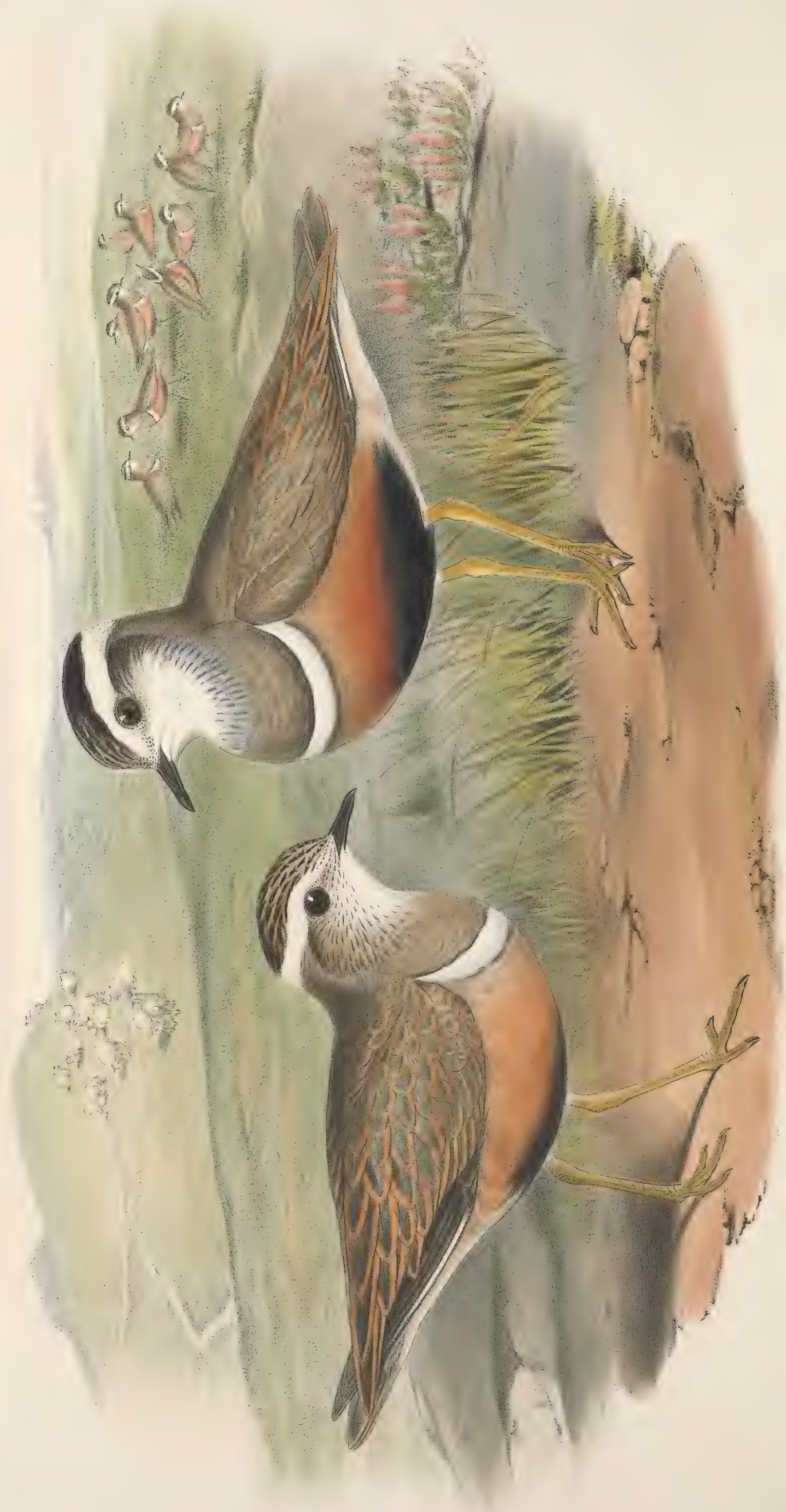
Bailly states that "the Little Ringed Plover is somewhat more abundant in Savoy than the *Æ. hiaticula*. It arrives in small flights at the end of March or the beginning of April, at the same time as its congener. For the purpose of breeding, they mostly resort to the borders of rivers and springs of the south of Europe; but a few, as soon as they arrive here, disperse in couples for the same purpose. In May and June they and their young are to be met with on the gravelly borders of the Rhone, the Lake of Bourget, the torrent of Hyères, &c., and rarely in other localities than the neighbourhood of water.

"Its habits, manners, and gait are very similar to those of the ordinary species. If the nest or young be approached, the old birds rise and fly round the intruder in circles, repeatedly uttering their small piercing cries, and have recourse to various artifices to entice him from the neighbourhood of the nest.

"At the end of August, sometimes in September, and occasionally as late as the commencement of October, the old and young unite in small flocks, often in company with other Plovers, and proceed on their autumnal migration, when they fly low, and frequently call to each other with flute-like cries. Sometimes they are so close together that several are killed at a single shot; and among the victims are often found examples of *Æ. hiaticula* and *Æ. cantianus*."

The Little Ring-Plover is said to migrate in small companies of from five to ten in number, the movement being always made at night—to be sociable in its habits, several broods being brought out in the same locality—and not shy, but admitting of a somewhat near approach. Its food consists of larvæ, worms, and the infinite number of insects which occur on the borders of the waters it frequents.

The figures in the foreground of the accompanying Plate are of the natural size. The reduced one in the distance may be that of a young bird of the first autumn.



HYDROMIAS MORINELLUS.

EUDROMIAS MORINELLUS.

Dotterel.

Charadrius morinellus Linnæi et auctorum.

————— *Sibiricus*, Gmelin, Syst. Nat., tom. i. p. 690.

————— *Tataricus* et *Asiaticus*, Pallas, Reis., vol. ii. pp. 714 et 715.

Eudromias morinellus, Boie, Gray, Blyth, &c.

Morinellus Sibiricus, Bonaparte.

IN the British Islands, and doubtless in all parts of the European continent, the Dotterel is strictly a migrant, arriving in the spring as regularly as the Swallow, and as regularly wending its way back southwards in August and September to winter, without doubt, in Northern Africa. It is during its spring passage, between the 15th of April and the 15th of May, that the Dotterel may be looked for in England, where it always evinces a decided preference for high open downs, extensive fallow fields, and the summits of mountains. The Mendip Hills in Somersetshire, the Chilton ridges in Berkshire, the chalk hills of Bedford, Hertford, and Cambridgeshires, and the Yorkshire wolds are among the many places that are annually visited by these birds. In such localities they may be seen in small parties of three or four in number, or in "trips" of ten or twenty: they are now gradually passing to their breeding-grounds on the hill-sides of Cumberland, the Grampians, and other elevated situations still further north. On the continent of Europe, the low country of Holland does not offer them a congenial home, and hence they are seldom seen there; they do, however, as in England, regularly pass over Italy, France, and all parts of Germany. The law, I believe, is that they proceed from south to north, and *vice versâ*; and thus those that pass over France are *en route* to their summer home in Norway and Lapland, while those further east, in Turkey and the Crimea, are on their flight for the steppes of Russia and Western Siberia. In the autumn they as regularly return, some to winter in North-eastern Africa, others in Asia Minor, Arabia, &c. The furthest point east, from which I have received specimens, is the Crimea. According to the late Mr. Thompson, the Dotterel is rare in Ireland, and in North America it is never seen. If I had devoted years to the study of this bird, I could not have acquired more information respecting it than was communicated to Mr. Yarrell by my old friend the late J. C. Heysham, Esq., of Carlisle; and I feel I should be wanting in respect to the memory of this lover of nature were I not to transcribe the entire passage from Mr. Yarrell's 'History of British Birds':—

"In the neighbourhood of Carlisle," says Mr. Heysham, "Dotterels seldom make their appearance before the middle of May, about which time they are seen in flocks which vary in number from five to fifteen, and almost invariably resort to heaths, barren pastures, fallow grounds, &c., in open and exposed situations, where they continue, if unmolested, from ten days to a fortnight, and then retire to the mountains in the vicinity of the lakes to breed. Their most favourite breeding-haunts are always near to or on the summits of the highest mountains, particularly those that are densely covered with the woolly Fringe-moss (*Trichostomum lanuginosum*, Hedw.), which, indeed, grows more or less profusely on nearly all the most elevated parts of this Alpine district. In these lonely places they constantly reside the whole of the breeding-season, a considerable part of the time enveloped in clouds, and almost daily drenched with rain or the wetting mists so extremely prevalent in these dreary regions; and there can be little doubt that it is owing to this peculiar feature in their economy that they have remained so long in obscurity during the period of incubation. The Dotterel is by no means a solitary bird at this time, as a few pairs usually associate together, and live, to all appearance, in the greatest harmony. They do not make any nest, but deposit their eggs, which seldom exceed three in number, in a small cavity on dry ground, covered with vegetation, and generally near a moderate-sized stone or fragment of rock. In early seasons old females will occasionally begin to lay their eggs about the 26th of May; but the greater part seldom commence before the first or second week in June. The males assist the females in the incubation of their eggs. How long incubation continues I have been unable to ascertain, but I am inclined to think that it rarely lasts longer than eighteen or twenty days. A week or two previous to their departure, they congregate in flocks, and continue together until they finally leave this country, which takes place sometimes during the latter part of August, at others not before the beginning of September. A few birds are no doubt seen after this period, but they are either late broods or birds that are returning from more northern latitudes. Having spent a considerable portion of several days on Robinson, in company with a very able assistant, searching for the eggs of the Dotterel, I had, of course, ample opportunities of observing their manners. On the 3rd of July we found three or four pairs near the most elevated part of this mountain; and on all our visits thither, whether early in the morning or late in the afternoon, the greater part were always seen near the same place, sitting on the ground.

When first discovered, they permitted us to approach within a short distance, without showing any symptoms of alarm; and frequently afterwards, when within a few paces, watching their movements, some would move slowly about and pick up an insect, others would remain motionless, now and then stretching out their wings, and a few would occasionally toy with each other, at the same time uttering a few low notes which had some resemblance to those of the common Linnet. In short, they appeared to be so very indifferent with regard to our presence that at last my assistant could not avoid exclaiming, 'What stupid birds these are!' The female that had young nevertheless evinced considerable anxiety for their safety whenever we came near the place where they were concealed, and, as long as we remained in the vicinity, constantly flew to and fro above us, uttering her note of alarm. The moulting appears to commence somewhat early with old birds; a male, killed on the 25th of July, was completely covered with pen-feathers, while the belly, from incubation, was still almost bare. The stomachs I dissected were all filled with the elytra and remains of small Coleopterous insects, which, in all probability, constitute their principal food during the breeding-season."

Much as Mr. Heysham has written, and Mr. Yarrell recorded, respecting the Dotterel, neither of them makes mention of the great disparity in the size of the sexes, or of the difference in their colouring, which is the more remarkable as both these points are mentioned by Latham. From the unmistakeable evidence of actual dissection, I have ascertained that the largest and most richly coloured birds are females, and that their average weight is from 5 to $5\frac{1}{2}$ ounces, while the comparatively dull-coloured birds, rarely exceeding 4 ounces in weight, are males. I have often thought that the state of plumage in which they arrive in the spring is merely a seasonal dress, and that their winter garb is not characterized by that rich colouring. It would appear, too, that the young of both sexes, during their first autumn, are destitute of these colours, have the head of a nearly uniform brown, and the lunate marks of the head and chest but slightly indicated.

A history of the Dotterel would be sadly incomplete without a passing sentence on the value of the bird as an article of food and of commerce. During its vernal migration, the Dotterel has from time immemorial been captured and shot for the purposes of the table; and great numbers are annually forwarded to London, where, at this season, it may be seen gracing the shops of the respectable poulterers, such as Mr. Bailey, of Mount Street, Grosvenor Square, and Mr. Fisher, of Duke Street, Piccadilly. The Dotterel in the month of May, when the London season is at its height, and game prohibited, is quite a godsend to the epicure, competing with the fattened Quail and Ortolan, both of which, in my opinion, it far surpasses in succulency and flavour; indeed, I think it may be regarded as the very finest of the British birds for the table, the Snipe, Woodcock, and Grouse not excepted. The autumnal migration of these birds does not afford the same opportunities for procuring them as that of spring; for they return more irregularly, neither do they keep so exclusively to the downs, but disperse more generally over the country; few autumn-killed birds are therefore seen in our markets; besides which, Grouse and Partridges being now abundant, they are less in demand. Like the migratory Quail of the continent of Europe, the young Dotterels of the year far surpass the adults in flavour. I may add that no present is more acceptable to the epicure and the invalid than two or three couples of Dotterels: such a gift has been and still is deemed worthy of royalty, and whoever may have an opportunity of partaking of this delicious viand will not be disappointed.

Though perhaps not so swift as that of the Golden Plover, the flight of the Dotterel is extremely rapid; when disturbed, they take long flights for a mile or more, and then, suddenly wheeling round, often return to the spot whence they had risen. The usual mode of shooting them is to walk quickly round the trip, and gradually to diminish the circle until within range, when they become confused and are readily killed. They move over the ground with great rapidity, grace and elegance characterizing all their movements. They so love to dust themselves in the fallows or on the hill-sides, that a friend of mine, the late Mr. Hewitt, of Reading, informed me he had frequently seen them cover themselves entirely, with the exception of the head, by scratching the dust over them.

The eggs, which are generally three in number, are deposited in a depression of the ground; they are of a yellowish olive, blotched and spotted with dark-brownish black, and are one inch seven and a half lines in length by one inch two and a half lines in breadth.

The female has the crown of the head dark brown, striated with buff, a broad streak of white passing over each eye and uniting at the occiput; throat white, striated on the cheeks and lower part with fine lines of brown; neck and breast olive, bounded below by a narrow fascia of black, succeeded by a broader one of white; below this the abdomen and flanks are rufous, with a large patch of black in the centre of the latter; vent and under tail-coverts white; wings and upper surface olive-brown, each feather margined with sandy buff; primaries dark brown, the outer one with a broad white shaft, and the remainder slightly fringed with white; upper tail-coverts pale olive; base of the tail the same, passing into very dark brown near the extremity, and the lateral feathers largely tipped with white; irides dark hazel.

The Plate represents a male and female of the size of life.



CURSORIUS GALLICUS.

CURSORIUS GALLICUS, *Gmel.*

Cream-Coloured Courser.

Cursorius Gallicus, Gmel. edit. Linn. Syst. Nat., tom. i. p. 692.

——— *Europæus*, Lath. Ind. Orn., vol. ii. p. 751.

——— *isabellinus*, Meyer, Taschenb. Deutschl. Vög., tom. ii. p. 328.

Tachydromus Gallicus, Ill. Prod. Syst. Mamm. et Av., p. 250.

Cursor isabellinus, Wagl. Syst. Av., *Cursor*, sp. 1.

——— *Europæus*, Naum. Vög. Deutschl., 1834, tom. vii. p. 77, tab. 171.

Cursorius Jamesoni, Jerd. Birds of India, vol. ii. part ii. p. 875.

THE first notice of the occurrence of this bird in England is contained in the late Dr. Latham's 'General History of Birds,' where it is stated that it was killed by William Hammond, Esq., of St. Alban's Court, on his estate at Wingham, in East Kent, in the year 1785. The present owner of this estate, W. O. Hammond, Esq., having kindly sent me a copy of Dr. Latham's letter to his grandfather on the subject, I think it will be well to insert it here, as any details respecting so rare a bird cannot fail to be perused with interest.

"SIR,—This morning I received from you what I consider a valuable acquisition, though I have with you to regret the condition the bird arrived in. I cannot say that it is a nondescript, though I believe it is the first time the bird has been known to inhabit this kingdom. M. Buffon has described it in his 'Histoire des Oiseaux,' vol. viii. p. 128, under the name of Courvite; and it is also to be found figured in the 'Planches Enluminées' of D'Aubenton, No. 795. I have likewise described it my 'Synopsis of Birds,' vol. iii. part 1. p. 217, by the name of the Cream-coloured Plover. It has been met with in France, and one greatly similar (if not a variety) on the coast of Coromandel. Your note does not say in what place in England it was shot, which still remains a desideratum with me; and if you will not think it too much trouble some future day to inform me of the place where and day when it was killed, whether there were others in company, or if any such have been seen at other times of the year, and if the ground it was on was marshy or otherwise, or anything else relative to its manners, note, &c., I should esteem it a particular favour. Notwithstanding the bad condition it is in, I cannot refrain the attempt of putting it into attitude, and shall be very happy to show you what I may be able to do with it, if you will do me the favour of a call when you next come our way.

"I am, Sir, your most sincerely obliged,

"Dartford, 12th December 1785."

"JOHN LATHAM."

To this Mr. Hammond has appended the following extract from the 'Monthly Review,' page 143:—

"The *Isabellinus*, or Cream-Coloured Courser, has been thrice captured in the southern and temperate parts of Europe. One of the three specimens was shot in Kent, at St. Alban's Court, the seat of William Hammond, Esq., who presented it to Dr. Latham with the following account:—

"It was first met with running upon some light land; and so little fearful was it, that after having sent for a gun, one was brought which did not readily go off; the report made the bird rise, but, after making a turn or two, it settled again within a hundred yards, when a second shot despatched it. It was observed to run with irresistible swiftness, and at intervals to pick up something from the ground, and was so bold as to render it difficult to make it rise, in order to take a more secure aim on the wing. The note was not like any kind of Plover, nor, indeed, to be compared to that of any known bird."

"This specimen found its way into the Leverian Museum; at the time of the sale of which it was purchased from Fichtel, who had bought it, by that zealous naturalist Donovan, for the sum of eighty-three guineas. It is now deposited in the British Museum."

Since the period above mentioned England has been visited at distant intervals by other examples of this wanderer. We learn from the Supplement to Montagu's 'Ornithological Dictionary' that one was shot in North Wales in 1793 by Mr. George Kingston of Queen's College, Oxford; and Atkinson, the author of the 'Compendium of Ornithology,' was in possession of another, which had been killed at Wetherby in Yorkshire in April 1816. A fourth example was shot by one of Lord Harewood's keepers in the same county in 1825. A fifth was recorded, in the third volume of the 'Zoological Journal,' by G. T. Fox, Esq., as having been shot on the 15th of October, 1827, in Charnwood Forest, in Leicestershire, and is now in the possession of the Rev. T. Gisborne, of Yoxhall Lodge, Staffordshire. A sixth is recorded by Yarrell as having occurred in Durham in October 1827. On the 2nd of October 1855 a fine Cream-Coloured Courser fell to the gun of Walter Langton, Esq., of West Hill, Wandsworth, while partridge-shooting on East Down, Salisbury Plain, where the bird suddenly pitched before him, and was easily shot: this specimen I have seen at Mr. Langton's house, and a very fine one it is. In the 'Times' for October 28, 1858, the following

paragraph appeared:—" *Rara avis*. A beautiful specimen of a rare bird, the Cream-Coloured Courser, *Cursorius Europæus*, was shot this week in Hackney Marsh, near the Victoria Station, by Mr. G. Beresford, of the White House. It was found in the open marsh, and ran with incredible swiftness, and it was very difficult to make it take wing."

In October 1864 a specimen was killed near Maryport, in Cumberland, and is now in the possession of Mr. T. H. Allis, of York: this is the last instance known to me of the occurrence of the bird in Britain. It will be observed that all the specimens enumerated have been taken in England, and always in autumn. On the continent of Europe it is scarcely more plentiful than with us, excepting in the more southern countries, in the neighbourhood of the Mediterranean and Black Seas, bordering on the native habitat of the species, where, as might naturally be inferred, its appearance is more frequent. The very aspect of the bird, whether we regard its buff- or sand-coloured plumage, or the peculiar structure of its legs, indicates that it is a denizen of desert and sandy plains, a creature of the Sahara; and in such localities it dwells throughout the greater part of Africa, north of the equator, from Tunis to Egypt, in Persia, and in the Punjab and Scinde, whence I have received several examples; I have also a specimen from the Cape de Verd Islands.

For a knowledge of its eggs we are indebted to the researches of the Rev. H. B. Tristram, who sent to Mr. Hewitson the following notes respecting them:—"Although during the winter of 1856-57 I penetrated several hundred miles into the Algerian Sahara, and beyond its limits as far as between latitude 31° and 30° , yet this bird only once came under my observation, being evidently for the most part only a summer migrant to those regions. In the month of June 1857 I twice met with small flocks of them on the Hauts plateaux, between Biskra and Batna, to the south of Constantine. During the previous summer of 1856 I had met with the bird several times in the Western Sahara, north of Leghouat, and especially in the neighbourhood of Ain Oosera, a solitary caravansary in the desert, kept up by the French government as a halting-place. Though certain the birds were breeding there at the time, I was unable to detect their nest; but shortly after my departure the keeper of the caravansary, who had assisted me in my search, and who had in previous years frequently taken the eggs and cooked them as omelets along with those of *Pterocles setarius*, found me the nest and sent me the eggs, which, he affirms, are always three in number, as indeed might have been expected from the character of the bird. It makes no nest whatever, but deposits its eggs on the bare soil in the most arid plains. They bear a very striking resemblance both in shape and colour to some of the eggs of the Norfolk Plover. The delicate undulations are not easily imitated in a drawing."

The above notes are extracted from Mr. Hewitson's paper on "Recent Discoveries in European Oology," published in the 'Ibis' for 1859, in the plate accompanying which the egg is represented as nearly round in form, and of a delicate pale buff or cream-colour, minutely streaked with pale violet, orange, and light red.

Of the isolated and well-defined genus to which this bird belongs, five, six, or seven species are known. They are all natives of Africa and the hotter parts of India, and are so swift of foot, and turn so frequently when running, as to present the appearance of pieces of paper blown about by the wind.

The general plumage of the adults is of a light cinnamon-brown, becoming much paler on the under surface, especially on the chin and abdomen, which parts are nearly white; forehead cinnamon-red; occiput and part of the nape ashy grey; back of the neck black; from above the eye to the occiput a band of snow-white, and below it another of black; primaries brownish black; secondaries brownish black on the inner web, cinnamon-brown on the outer, with a small patch of brownish black near the extremities, and the tips white; tail pale cinnamon, all, except the two central feathers, with a conspicuous, somewhat crescent-shaped, mark of blackish brown near the extremity, beyond which the tip is white; the black marks occupy both webs of all the feathers on which they occur, except the outer one, on which the black mark is absent from the external web; they are scarcely perceptible when the tail is closed; bill fleshy brown at the base, blackish brown towards the tip; legs and feet creamy white; nails black; irides brown.

The young birds until they are nearly adult have the feathers of the upper surface crossed near the tip by a narrow band of dark brown; in other respects the old and young are very similar.

The Plate represents two adults and a young bird; the front figure is of the natural size, the others somewhat reduced.



HÆMATOPUS OSTRALÉGUS, Linn.

HÆMATOPUS OSTRALEGUS, *Linn.*

Oyster-catcher.

Hæmatopus ostralegus, Linn. Syst. Nat., tom. i. p. 257.

Ostralegus hæmatopus, Macgill. Man. of Nat. Hist., Orn., vol. ii. p. 59.

——— *vulgaris*, Less. Rev. Zool., 1849, p. 47.

WHY has this bird been called Oyster-catcher, when it is said by most observers never to feed upon that species of mollusk, but to be extremely fond of the common limpet, which it dexterously detaches from the rocks left bare by the tide? Thompson, who has studied more fully the food of our native birds than perhaps any other writer, says:—"The *Ostrea* inhabits too deep water to be ever accessible to the bird. The contents of the stomachs of eight individuals, shot in spring, autumn, and winter, proved, on examination, to be as follows: five contained only the opercula and portions of the animal of the whelk (*Littorina communis*), with which some of them were wholly filled; one exhibited the opercula of *Purpurea lapillus*; another presented a good deal of vegetable matter (consisting of tender roots and green leaves), small, white, worm-like larvæ, a few opercula of the whelk, and an operculum of *Buccinum undatum*; in the stomach and crop of the last, which was remarkably fat, were fifty opercula of large whelks, about twenty-five animals of good-sized limpets (*Patella vulgaris*), and an holothuria (*Cucumaria*)."

Having commenced this history of a species so common, so attractive, and which plays so important a part among our shore-loving birds, by showing that its trivial name, like that of the Goat-sucker, is a misnomer, I proceed to state that it is found on every part of the coasts of England, Ireland, and Scotland suited to its habits. Being a winter as well as a summer bird in the British Islands, it must be considered indigenous with us. Unlike the Turnstone, the Grey Plover, and some other Grallatorial birds, which frequently desert whole districts and even entire countries for a time, the present species rarely changes the locality in which it has taken up its abode, and, consequently, may almost to a certainty be found any day in the year by those acquainted with its habits and its usual places of resort. It is a strikingly showy bird, whether seen on the low rocky promontories of the coast or on the shingly beach of such rivers as the Don and the Dee, where it sometimes breeds. Apart from Britain, the Oyster-catcher is enumerated in the avifaunas of all the countries of Europe; indeed its range extends from the Arctic circle to the Mediterranean, and eastward as far as India; but as yet we do not know if it has been observed in China, the bird brought from that country by Mr. Swinhoe, which at first was considered identical, proving, on further examination, to be distinct and probably *Hæmatopus longirostris*. Other species of this form are distributed over certain parts of the globe; in the Old World some are found in Europe, throughout the greater part of Africa, India, China, Australia, Tasmania, and New Zealand; and others in America, from the United States to Terra del Fuego,—the whole probably amounting to ten or twelve in number.

"The Oyster-catcher of Europe," says Sir William Jardine, in a note to his edition of Wilson's 'American Ornithology,' "is to be found on all the sandy British coasts in immense abundance. All those I have observed breeding, have chosen low rocky coasts, and deposited their eggs on some shelf or ledge, merely baring the surface from any moss or other substance covering the rock. When approached, the parents fly round, uttering with great vehemence their clamorous note. A great many old and young birds are always to be found on these coasts, enlivening the monotony of an extensive sand-beach with their clean and lively appearance and their shrill notes. As the young begin to assemble, the flocks increase; by the month of August they consist of many thousands, and at full tide they may be seen, like an extensive black line, at the distance of miles. They remain at rest until about half tide, when a general motion is made, and the line may be seen broken as the different parties advance close to the water's edge. After this they keep pace with the reflux until the feeding-banks begin to be uncovered, of which they seem to have an instinctive knowledge, when they leave their resting-place in small troops,—taking day after day the same course. They are difficult to approach; but when one is shot the flock will hover over it for some time, without heeding the intruder. During flight they assume the wedge-shape ($\triangleright$), like Ducks. They feed at night when the tide is suitable, and are often very noisy. Mussels and other shell-fish, crabs, &c. &c. are their most common food."

Mr. Hewitson says, "the Oyster-catcher is very particular in the selection of a site for its eggs, always making choice of a piece of gravel, or stony ground if to be met with near, more especially should it be mixed with broken shells, to which it shows a curious partiality, carefully collecting them together, and arranging them in a slight hole in the ground, and, when these are not to be found, selecting in their stead

small flat pieces of stone. Simple and hard though the materials be which compose its nest, it is as particular in its arrangement of them as many of our smaller birds are in the softer and more luxurious composition of their neat and beautiful abodes. Whether the position for the egg is chosen upon the pebbly beach or upon the harder surface of the rock, it is always carefully strewed with these small flat pieces of shell or gravel. The whiter they are, the better they seem to please the taste of the architect, which seems, however, to experience some difficulty in placing them to its liking, and prepares numerous nests before it makes use of one. This I have always noticed with wonder, and in some instances have seen as many as a dozen, all apparently as well finished as the one which contained the eggs." I suspect that nests of this description are only to be met with in certain localities; for the eggs found on the fine sandy borders of some of our inland rivers were placed in a slight depression only; and in the rocky spots of the coast where they are deposited just above high water-mark, but little in the shape of a nest is to be detected. The Oyster-catcher generally lays two, three, or four eggs. Perhaps the normal number may be three, since not more than three, and most frequently two, were found in the nests detected by me in the beaches in Tasmania, where I was surrounded by *Hæmatopus longirostris* and *H. fuliginosus*, the former of which is very nearly allied to the European species; and we may safely infer that the nidification of the two birds is as similar as their outward appearance.

Macgillivray, speaking of the bird when raiding, as it sometimes does, into the interior of the country, says:—"When by the silver Dee, gliding rapidly along amidst corn-fields, pastures, and fragrant birch-woods, you hear a loud and shrill cry, and, turning round, see a pair of Sea-pies winging their flight up the country, their glossy black and pure white plumage contrasting strongly with every thing around, and their long vermilion beaks giving them a strange and foreign aspect, they never fail to rivet your gaze. Equally attractive are they when running about on some grassy meadow, picking up an insect or a slug, then standing, and again advancing with short quick steps, prettily tripping it among the gowans, then emitting their loud alarm-cries, and flying off to a more distant place or alighting on the pebbly beach.

"While reposing, the Sea-pie stands with its legs quite straight, or uses one leg only, the other being drawn up, the body horizontal, the neck retracted, the head either directed forward or with the bill buried among the feathers of the back. In this position they present a curious appearance when there is a high wind, as in that case each individual directs his breast towards it, and on a sandy beach or level shore they often stretch out in long lines. Its flight is strong and steady, performed by regular beats of the extended wings, with the neck drawn in and the feet directed backwards. Its alarm-note is a single shrill scream; but on some occasions it emits a modulated softened cry of several notes. When wounded so as to be unable to fly, it readily betakes itself to the water and swims off, sitting light and moving with considerable speed."

The eggs, which are deposited in April and May, are of a yellowish stone-colour, spotted with ash-grey and dark brown, and are about two inches and two lines in length by one inch and six lines in breadth. The process of incubation occupies about three weeks; and during that period the male keeps guard, as it were, and becomes very noisy on the approach of danger. The young when hatched are clothed in a greyish brown down.

The Oyster-catcher readily becomes tame, especially when taken young, and then forms an amusing pet, of which a very interesting instance is given in Thompson's 'Natural History of Ireland,' vol. ii. p. 127, to which I must beg leave to refer my readers.

Both Selby and Macgillivray speak disparagingly of the flesh of this bird, the former saying it "partakes of the odour of the food upon which it subsists," and the latter that it is "very dark, abounds in fat of a yellowish colour, has a disagreeable smell, and rather unpleasant taste;" but this is contrary to my experience (which, however, is not great); for those I have eaten have been tender, juicy, and well flavoured; and that they must be partaken of by many persons is certain, since it is very frequently seen in the shops of the second-class poulterers in London; and we learn from Macgillivray that it is as often seen in the markets of Edinburgh, where they are usually sold at two shillings a couple.

The sexes are precisely alike at the same age, both in colour and markings; their throat, which is jet-black in summer, is crossed by a mark of pure white in winter, the absence or presence of which will serve to indicate the period of the year at which a mounted specimen has been killed. The bill is at all times orange in the adult bird, the eye blood-red, and the legs pinky flesh-colour; but their hues are more or less brilliant, according to the season; thus in autumn they are not so bright or vivid as in spring, prior to the commencement of the breeding-season, when, like all other birds, they are in their finest costume.

The Plate represents a bird in the summer and another in the winter plumage, a trifle under the natural size.



GLAREOLA PRATINCOLA.

J. Gould & H. Richter, del. et lith.

Walter, imp.

GLAREOLA PRATINCOLA.

Common Pratincole.

Hirundo pratincola, Linn. Syst. Nat., tom. i. p. 345.

Glareola austriaca, Gmel. edit. Linn. Syst. Nat., tom. i. pp. 695, 696.

——— *torquata*, Meyer, Taschenb. Deutschl. Vög., tom. ii. p. 404.

——— *pratincola*, Leach, Trans. Linn. Soc., vol. xiii. p. 131, pl. 12.

THE *Glareola pratincola* is the type of one of those isolated forms which have sadly puzzled systematic ornithologists as to the place they should occupy in their arrangements of birds. By many of the earlier writers it was classed with the Swallows ; some of the more recent ones have noticed its Tern-like actions ; while by most modern systematists it is arranged with the *Grallatores* and in close alliance with the Plovers.

The celebrated Linnæus, following Aldrovandus and Willughby, included it in the genus *Hirundo*, in the 12th and last edition of his ‘Systema Naturæ’ (of 1766) ; but at that time Linné had not seen a Pratincole, a fact of which I have become aware from a letter I possess in his own handwriting, dated 1774 (eight years later), addressed to the Reverend John White, a brother of the well-known Gilbert White, of Selborne, in which, after rendering eternal thanks for, and commenting upon the interesting objects he had just received from him, he says :—“Pratincolam antea non vidi ; ad Grallas spectat, et proprii generis :” *i. e.* “Pratincola I had not seen before ; it is evidently allied to the Grallæ, and forms a distinct genus.” This must have been the source of information to which Latham refers in his General History, vol. ix. p. 361, where he says :—“The late Mr. White informed me that, finding Linnæus had placed this bird with the Swallows, he sent one to him, which had been shot on the shore of Gibraltar, in May 1770 ; on the sight of which the great naturalist concurred in opinion that it belonged to the Waders, and not to the Passerine Order.” I must fairly admit that at one time I was inclined to the Hirundine theory, and regarded the bird as a terrestrial Swallow rather than, as it appears to be, an ærial Plover ; and this notion prevailed with me until a very recent period, when (after soliciting various friends visiting North Africa, Spain, and India to send me young Pratincoles one or two days old, an examination of which I knew would confirm or refute my ideas on the subject) I was so fortunate as to obtain, through the kindness of Lord Lilford, two chicks of the required age in spirits, accompanied by a note informing me that the young birds run over the ground immediately after exclusion from the egg, and are not blind, naked, and helpless, like newly hatched Swallows,—facts which leave no doubt on my mind that the Pratincole should not be associated with those birds.

As Linnæus remarked, the bird does belong to a distinct genus, of which since his time several other members have been discovered, the whole now amounting to nine or ten in number, all inhabitants of the Old World, over nearly the whole of which one or other of them are distributed. In Europe there are two—*Glareola pratincola* and *G. melanoptera* ; in Africa, besides these, there are at least three others ; in India four or five, and in Australia two, one of which is perhaps not found elsewhere.

In England the Pratincole has been killed many times and at various seasons of the year ; it has also been taken at least once in Ireland ; but, as yet, Scotland has either proved to be too far north, or the birds which would have passed over England to that country have met with the usual ill fortune of accidental visitors. It is stated, however, that Bullock obtained an example in the Isle of Unst, one of the Shetland group, which, at the dispersion of his collection in 1819, was sold for eight guineas, and transferred to the British Museum.

According to Temminck, the Pratincole frequents the borders of lakes, rivers, and inland seas, particularly such as form extensive marshes covered with aquatic herbage. In Hungary, it abounds on the marshy confines of the lakes Neusidel and Balaton, where he saw it in flocks of hundreds together. It is likewise met with in some parts of Germany, France, and Spain, and also in Switzerland, Italy, Piedmont, and Savoy ; but in these latter countries it must be regarded as a bird of passage or occasional visitant. Temminck also states that it breeds in Sardinia, and is very abundant in Dalmatia, on the borders of the lake Boccagnaro during its spring migration. It has been observed in Persia and in considerable flocks in the neighbourhood of the Caucasus ; and I possess examples from Western India. It is also said to resort to Tartary, but not to go further north than latitude 53° ; and it will be seen from the following notes that it frequents Palestine &c. Mr. Osbert Salvin found the Pratincole frequenting the salt lakes and freshwater marshes of the tableland of the interior of the Eastern Atlas, and says :—“Its fearless manner and familiar habits cause it to rank high among the interesting birds of the country. When in proximity to their breeding-places, the whole flock comes wheeling and screaming round, while some dart passionately down to within a few feet of the intruder’s head, retiring again to make another descent. When the first transports of excitement

are over, they all alight one by one on the ground. Some stand quite still, watching with inquiring gaze ; while others stretch themselves out, first expanding one wing, then the other, and, sitting down, extend both legs. In this position they remain some seconds, as if dead, when suddenly springing up they make another circuit overhead, and the whole flock passes quietly away. The Pratincole makes no nest, but deposits its three eggs in a slight depression of the bare sand. They are usually placed with their axes parallel. We several times visited places where numbers of these birds were breeding, yet we never succeeded in finding a young one, though many of the eggs were on the point of being hatched. This fact favours the idea that on leaving the egg the young are capable of running like those of other *Grallæ*. The Pratincoles often attracted my attention by their incessant cries and furious attacks, as if resenting my intrusion on their domain."

Col. Drummond-Hay informs me that he frequently observed the Pratincole skimming and hovering over the marshy plains about thirteen miles from Tangier, where it breeds ; but never saw the bird in any other part of Eastern Morocco. To this gentleman I am also indebted for the following note, which he obligingly procured for me from M. François Favier, a French naturalist, resident in Tangier :—

"Here the Pratincole usually deposits its eggs during the month of May, in the small depressions made by the feet of animals, in meadows which are overflowed in winter. A second laying seems to take place in July, as recently hatched young birds are found in June and August."

The egg figured by Mr. Hewitson is of an olivaceous stone-colour, spotted with dark brown ; but he says that the ground-colour is frequently much darker than in the one represented in his work.

Lieut. Sperling says :—"Whilst boar-shooting on the Plain of Sharon, I shot some Pratincoles. There were a great many of them hawking for insects over the fields, flying at a height of about twenty feet, and continually uttering a sound between a low scream and a whistle. The stomach of one I examined was very full of coleopterous and other insects. I rather think they catch as many on the ground as on the wing ; for they frequently settle, and run with all the ease of a Plover. They roost on the ground, and fly late at night, their large eyes being well adapted for seeing in the dusk."

The Rev. H. B. Tristram states that "the Pratincole (*Glaucola pratincola*) disappears from Palestine in winter, but returns in great numbers to all the marshy plains in spring, when we found them on their breeding-grounds, where they can be shot in any numbers, as they keep hovering over the intruders, undismayed by repeated discharges of the gun. As in Africa, they lay their eggs in a footprint in the barest spots, without the slightest nest ; they are never found where there is a vestige of vegetation, and, from their great similarity to the pebbles and bits of clay around, are very difficult to discover, while the bird employs all the artifices of a Lapwing to decoy the spoiler from them."

In the note from Lord Lilford accompanying the chicks above mentioned, he says :—"The two young Pratincoles were taken in the great marshes on the Guadalquivir, in June 1869, and had only left the eggs a few hours. They were brought to me alive ; and I can positively state that they run immediately after being hatched. Pratincoles are very abundant in spring and summer in the locality above mentioned. The flight and cry of these birds, their habit of hawking for insects on the wing, and the colour of their eyes forcibly reminded me of the Terns."

About the beginning of August the young birds fly about with the adults, which, being very much attached to their progeny, accompany them until the commencement of September, when they all move southward for the winter. Their flight is described as of extraordinary rapidity ; and their evolutions are said to be exceedingly graceful, quick, and beautiful. "When a flight passes through the air within sight, they proceed very swiftly, and on lowering to alight they shoot like arrows by one another ; finally they once more open their wings to their full length, raise them highly, and then settle, rather closely spread, over the ground."

The sexes do not appear to differ in their colouring, and but little in size.

The Plate represents the two sexes and the young, of the size of life.

I have figured four young birds, under the impression that, as with the Plovers, this was the normal number ; but Lord Lilford is of opinion that three would have been more correct.



SHIBUKI SUTSUJEN, JYUJI

FALCINELLUS IGNEUS.

Glossy Ibis.

Tantalus igneus, Gmel. edit. Linn. Syst. Nat., tom. i. p. 649.

——— *falcinellus* et *viridis*, Gmel. ib., p. 648.

Ibis sacra, Temm. Man. d'Orn., 1815, p. 385.

—— *ignea*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 33.

—— *falcinellus*, Temm. Man. d'Orn., 2nd edit. 1820, tom. ii. p. 598.

—— *castaneus*, Brehm, Vög. Deutschl., p. 606, tab. 29. fig. 3.

Numenius viridis, S. G. Gmel. Reise, tom. i. p. 167.

Tantalides falcinellus, Wagl. Isis, 1832, p. 1232.

Plegadis falcinellus, Kaup, Natürl. Syst. p. 82.

THE Glossy Ibis, although nowhere very abundant, is so widely spread over the surface of the globe, that it may be said to inhabit, with few exceptions, all the countries of the Old World. Thus we find records of its having been observed on the verge of the arctic circle, Dr. Reinhart informing us that in the summer of 1824 a flock of ten or twelve were observed on the southern extremity of Iceland; and I myself have seen examples from the southern, eastern, and northern coasts of the mainland of Australia. In these widely distant latitudes it is much less numerous than in the intervening countries. In Africa, India, and China it is to be met with everywhere. Although it is not the Sacred Ibis of the ancient Egyptians, it seems to have been held by them in great esteem, as its body embalmed is said to be often discovered in the catacombs.

The food of the Glossy Ibis being reptiles, fish, mollusks, insects, and indeed every living creature of the marsh and the mud-banks of large rivers, it is in such situations alone that it is destined to dwell; great deserts, dry and sterile plains, and open heath-covered countries are not compatible with its nature, and consequently must be regarded as the exceptions to the sweeping assertion that the Glossy Ibis inhabits the greater portion of the Old World. Everywhere, or mostly so, it is a migrant, seeking its sustenance in those situations where heat has generated its peculiar food, in the miasmal marshes to which it resorts. There was a time when our country was much better adapted as a habitat for this bird than it is at present. "In 1845," says Mr. Stevenson, "Mr. Lubbock wrote:—'Fifty years back' the Glossy Ibis 'was seen often enough to be known to gunners and fishermen as the Black Curlew;' but now a straggler or two at long and uncertain intervals is an important event in local ornithology, and the bird itself, if procured, a coveted possession by all local collectors." The gradual draining of the fens and the recovery and cultivation of much of the land bordering our estuaries being detrimental to the existence of the Glossy Ibis, that and many other fen-birds, such as the Spoonbill, the Stork, and the Crane, no longer appear as formerly; but as the little Stonechat clings to the enclosures and reclaimed lands of its native heaths, so do the marsh-birds occasionally revisit the situations to which they formerly resorted, and which, alas! now form bournes from whence they never again return; for doomed, to a certainty, are all such wanderers, the gunner and the collector not being able to resist the temptation of securing such prizes.

It will not be necessary to detail the numerous instances of the occurrence of the Glossy Ibis in England, Ireland, and Scotland which have taken place of late years; but it will be advisable to give such extracts from the writings of previous authors as may afford the requisite information as to its habits and economy.

According to Temminck, the Glossy Ibis is abundant during its migrations in Poland, Hungary, Turkey, the Grecian archipelago, the borders of the Danube, Switzerland, and Italy, and occurs only accidentally in Holland and England, to which may be added North and South Africa, India, and Australia. Dr. Leith Adams says he believes it is occasionally seen in Egypt, which is doubtless the case; but it appears to be rare there, since Captain Shelley remarks that he only met with it on one occasion, near El Kab, on the 23rd of April, when he saw three feeding together at a small pool, and procured two of them.

Mr. Wright says it is a pretty regular visitor to Malta in spring and autumn in small flocks; Lieut. Sperling, that it migrates through that island in the spring, and spreads over the marshes of the northern coast of the Mediterranean. It was met with in the Dobrudscha by Mr. Simpson. Lord Lilford informs us that it is tolerably abundant in Corfu and Epirus in March, April, and May; but he himself only saw one pair, which kept aloof from the other waders, and stalked about after the manner of the Herons.

Dr. Henry Giglioli says the Glossy Ibis passes Pisa pretty regularly in the latter half of April, stopping about a month. He saw three passing over the marshes of Rossore in May.

Bailly states that "The *Ibis falcinellus* ordinarily visits Savoy and the environs of Geneva at intervals of three and five years, principally at the end of April or in May. I know of no instance of its appearance during autumn, nor even at the end of summer. It is generally in little bands, or in couples, male and female, and seldom singly, that it visits our marshy localities, the borders of our lakes, rivers, and ponds. It is there observed on rainy days, and when the wind is south or south-east. The 26th April, 1847, a couple occurred on the borders of the Tsere, near St.-Pierre-d'Albigny, and were shot the same day; some years after, on 21st May, 1850, a company of four individuals appeared in a bog in the environs of Chamoux, of which two were killed; finally, May 8th, 1854, a band of five unexpectedly arrived on the borders of Lake Bourget, and were all killed in a few moments. Here it is always more easily approached than the Curlew. When it takes flight at the sight of the sportsman it does not go far. Its walk is slow and measured, almost like that of the Stork. Worms, leeches, snails, small shell-fish, and certain aquatic vegetables form its chief food. The *Ibis falcinellus* nests in the south of Russia. It lays, in the midst of the rushes and reeds, three or four clear green-blue eggs."

Midway between Tultscha and Ismael, M. Johann Zelebor found a large breeding-place of various Herons, among which he also observed *Falcinellus igneus* and *Carbo pygmaeus*.

Messrs. Elwes and Buckley note it as common in Turkey in summer, especially about the lagoons and marshes of the Danube.

Mr. Howard Saunders says it is "abundant in the 'marisma' of Southern Spain, where it undoubtedly breeds."

Mr. T. Ayres states that the Glossy Ibis is scarce in the Trans-Vaal Republic, and very shy and difficult of approach. They frequent swamps, generally in pairs, and on being disturbed circle up to a great height in the air, and then go right away to some other favourite marsh.

According to Dr. J. Kirk, it is "rather common in the Zambesi region, but a shy bird, difficult to approach; its cry is loud and harsh. It feeds in marshes and near rivers, but perches on the high trees when disturbed."

The Glossy Ibis seems to evince a remarkable partiality for the society of various species of Herons, as will be seen by the following notes by Mr. Tristram, Mr. Salvin, and Mr. Wright:—"The Glossy Ibis (*Falcinellus igneus*), that common attendant on the Herons," says Dr. Tristram, in his 'Notes on the Ornithology of Palestine,' "which we used in Africa to compare to the black sheep in a flock of white ones, appears to be very rare in Palestine, and I only once saw it."

"In the short reeds" of the Eastern Atlas, says Mr. Salvin, "stand a row of Buff-backed Herons (*Herodias russata*), contrasting strangely in their sluggish movements with the active Little Egrets, *Herodias garzetta*, some five or six of which may be seen feeding near, with a Glossy Ibis (*Ibis falcinellus*), the 'Devil Heron,' in their company. I several times saw a Glossy Ibis accompanying a small flock of Little Egrets at Zana; and it would appear, from Mr. Tristram's account of them at Lake Halloula, that they always show this partiality for Herons, but are not constant in their attentions to any one species."

"Sometimes," says Mr. Wright, writing of the bird in Malta, "a solitary one is seen accompanying a flock of Egrets." The above notes are from 'The Ibis' for 1859 &c.

Dr. Jerdon states that "The Glossy Ibis is found in vast numbers in India during the cold weather, frequenting the edges of large tanks, jheels, and rivers, also swamps and inundated paddy-fields, and feeding on mollusks, crustacea, insects, and worms. It flies in flocks rapidly and with great regularity, and generally in the form of a wedge, and roosts at night in large beds of reeds. It is said to breed among reeds. It is most excellent eating, and has a tolerably loud call, often uttered in flight and when alarmed."

Captain Irby states that the Glossy Ibis is common in Oudh and Kumaon during the cold season, where it is usually seen in flocks, and where he has repeatedly observed it settle on trees.

When fully adult, the sexes of the Glossy Ibis are alike in colour; but it would appear that at least two or three years must elapse before they attain the changeable bright colouring of the upper surface, and the chestnut hue of the neck; during the earlier portion of their existence the neck is striated dark brown, striated with greyish white, while the upper surface is changeable black; whence, I believe, has arisen the trivial name of 'Black Curlew,' by which it was known to the fishermen of Norfolk, as mentioned above. It was a bird in this state that was killed in Scilly in 1866, "for," says Mr. Rodd, in a note to myself, "it is apparently quite young, and the underparts are smoke wood-brown, with the neck variegated with white spots and markings."

The principal figure represents an adult male, somewhat under the natural size.



NUMENIUS ARQUATA.

NUMENIUS ARQUATA.

Curlew.

Scolopax arquata, Linn. Faun. Suec., p. 59.

Numenius arquata, Lath. Ind. Orn., vol. ii. p. 710.

———— *major*, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 26.

———— *medius*, Brehm, Vög. Deutschl., p. 609.

IF birds, like human beings, have recollections of the past, perceptions of the present, and anticipations of the future, such an endowment must necessarily add much to their happiness. I believe, however, that this is not the case, and that their actions and economies are purely the result of instinct, and not of reason, and consequently that the Curlew, when it leaves its summer home among the heather and other flowering plants of the hills, carries no recollection of the past to the sea-shore or the great oozy flats of our estuaries. How strange it is, and how interesting to know, that a bird should frequent such totally different localities at opposite seasons of the year!—the wet, oozy, mud-flats of the arms of the sea, the equally dirty sides of tidal rivers, and the flat shores of the ocean being resorted to by the Curlew in winter; while in summer it is strictly an inland bird, dwelling on the moorland, among bogs, on the sides of hills, and even the crowns of mountains—flowering rushes and blooming heather being the places in which its four large eggs are deposited, and in which its downy young first see the light. On reading the foregoing lines, ornithologists may say that they are equally descriptive of the habits and economy of the Dunlin. Admitting that they may be, they are none the less interesting, since they serve to show that structure, and not size, influences habits and modes of life. If closely compared, it will be found that in anatomical details the little Dunlin differs but little from the great Curlew; and, in like manner, but slight difference occurs in their modes of life. The two birds have associations in common, both wintering together on the muddy flats, and impulsively taking to the hills when the season of reproduction is near at hand. Not only do they change their locale, but a total change of food is the consequence,—small mollusks, marine worms, crustacea, and insects forming the staple article of the Curlew during its sea-side sojourn; while worms, snails, and such terrestrial insects as are natural to the hills constitute its diet in summer. In some cases, even during the season of reproduction, the Curlew performs nightly flights to the sea-side and to the neighbouring estuary; but that this is always done is impossible, from the great distance inland at which they sometimes breed.

Many of my readers will have gathered, from what has been written, that the Curlew is indigenous to the British Islands; but, for the information of those who are not so well acquainted with our native birds, I may state that it is universally distributed along the coasts of England and Scotland—from the Land's End, in Cornwall, to the Orkneys,—and that it is equally abundant in Ireland. In like manner it occasionally occurs in most parts of Europe, in Africa, and India; it has, in fact, a very wide range—so much so, that to say it extends over Europe and Asia, except their most northern parts, would probably not be exceeding the truth. In confirmation of this assertion I may state that Faber and Dr. Krüper mention it as having been killed, though very rarely, in Iceland; in Norway it penetrates beyond the Arctic circle, but in Sweden it does not reach so far by some three degrees; Swinhoe states that it is common in Amoy Creek, in China; and Mr. Gurney at Natal, in South Africa; Mr. Godman that it is occasionally found in the Azores; and Mr. Jerdon describes it as a bird of India.

Some of the recorded breeding-places of the Curlew may be mentioned:—Mr. Rodd gives the large moors about Roughtor, Brownwilly, &c., in Cornwall; formerly, if not now, on Dart- and Exmoor; several parts of Wales; the Derbyshire moors; the mountains of the English lake-districts; Scotland, both the highlands and the lowlands; the Orkneys and Hebrides, and many parts of Ireland.

“During the breeding-season,” says Sir William Jardine, in a note to his edition of Wilson's ‘American Ornithology,’ “the Curlew is entirely an inhabitant of the upland moors and sheep pastures, and, in the soft and dewy mornings of May and June, forms an object in their early solitude which adds to their wildness. At first dawn, when nothing can be seen but rounded hills of rich and green pasture, rising one beyond another with perhaps an extensive meadow between, looking more boundless by the mists and shadows of morn, a long string of sheep, marching off at a sleepy pace on their well-beaten track to some more favourite feeding-ground, the shrill tremulous call of the Curlew to his mate has something in it wild and melancholy, yet always pleasing. In such situations do they build, making almost no nest, and, during the commencement of their amours, run skulkingly among the long grass and rushes, the male rising and sailing round, or descending with the wings closed above his back, and uttering his peculiar quavering whistle. The approach of an intruder requires more demonstration of his powers, and he approaches near,

buffeting and *whauping* with all his might. When the young are hatched, they remain near the spot ; and are for a long time difficult to raise ; a pointer will stand and road them ; and at that time they are tender and well flavoured. By autumn they are nearly all dispersed to the sea-coasts, and have now lost their clear whistle. They remain here until next spring, feeding at low tide on the shore, and retiring for a few miles to inland fields at high water ; on their return again at the ebb, they show a remarkable instance of the instinctive knowledge implanted, and most conspicuous, in the migratory sea- and water-fowl. During my occasional residence on the Solway, for some years past in the month of August, these birds, with many others, were the objects of observation. They retired regularly inland after their favourite feeding-places were covered. A long and narrow ledge of rocks runs into the Frith, behind which we used to lie concealed for the purpose of getting shots at various sea-fowl returning at ebb. None were so regular as the Curlew. The more aquatic were near the sea, and could perceive the gradual reflux : the Curlews were far inland ; but as soon as we could see the top of a sharp rock standing above water, we were sure to perceive the first flocks leave the land, thus keeping pace regularly with the change of the tides. They fly in a direct line to their feeding-grounds, and often in a wedge shape ; on alarm, a simultaneous cry is uttered, and the next coming flock turns from its course, uttering in repetition the same alarm-note. In a few days they become so wary as not to fly over the concealed station. They are one of the most difficult birds to approach, except during spring ; but may be enticed by imitating their whistle."

"The cry of the Curlew," says Thompson, "is by far the loudest uttered by any of our grallatorial birds. It will perhaps be scarcely credited that it can be heard at the distance of nearly three English miles ; yet, under peculiar circumstances, such is the case. I have heard it on calm moonlight nights, when at the extremity of the bay at Holywood Warren, awaiting the flight of these birds from Harrison's Bay and Cons-water, whence the flowing tide would drive them from particular banks respectively about two and three miles distant from my station. The call from the first-named locality sounded quite near, and from the latter distinct, though much more faintly, the state of the tide evincing with certainty that all the banks, except the two alluded to, were covered too deeply with water for the birds to be on them."

"Whilst in Norway," observes Mr. Hewitson, "we were much amused with what appeared to us to be quite a new and unnoticed habit amongst the *Grallatores* or Wading-birds. We found it to be a practice by no means uncommon with the Redshank and Greenshank, to settle upon trees ; but what surprised us more than all, was to see the long-Jegged Curlew alight, as it frequently did, on the tops of the highest trees of the pine forest, and to hear it as it passed from tree to tree, utter its loud clear whistle. Mr. George Matthews informed me, on his return from Norway, that Curlews were common during summer, and generally in pairs about Trondhjem, where they were usually seen perched on the tops of the cabins of the peasantry."

Mr. Selby states that "the nest is placed on the ground amongst heath or coarse herbage, in a shallow part scraped in the ground, and lined with decayed grass and rushes. The eggs are four in number, placed with their large ends outwards, and the smaller meeting to a point in the centre of the nest, of a pale olive colour, blotched all over with two shades of brown. The young leave their place of birth as soon as hatched, and are then covered with a thick yellowish-white down, varied with spots and masses of brown. By degrees the feathers develop themselves ; but the young birds are not sufficiently fledged to take wing till they are six or seven weeks old. During this period they are assiduously attended by their parents, who lead them to appropriate feeding-places, and, by brooding over, protect them from the cold and wet. Under these circumstances Curlews lose the excessive shyness that characterizes them at all other times, and, when the young are approached, will fly close around the intruder, uttering their cry of *courlis* in quick repetition. The flesh of these birds is excellent, being juicy and highly flavoured, and is in great estimation for the table."

A partial, but not very striking, change takes place in the plumage of the Curlew at the pairing-season, the tints becoming somewhat richer, and the spotting more apparent, the lighter portions of the feathers of the upper surface assuming a redder hue, and the stripes of black on the neck and chest becoming more conspicuous. The plumage of both sexes is alike ; the female is generally the larger of the two ; but to determine the sex with certainty, dissection must be resorted to. Considerable difference occurs in the length of the bill, some individuals, even of the same sex, having that organ much longer than others ; and it would seem that it increases in length even after the bird is capable of reproduction.

The Plate represents an adult and two young ones, of the natural size.



NUMENIUS PHÆOPUS.

J. Gould & H. C. Richter, del. et lith.

Walter, imp.

NUMENIUS PHÆOPUS.

Whimbrel.

Scolopax phæopus, Linn. Faun. Suec., p. 60.

——— *borealis*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 654.

Numenius phæopus, Lath. Ind. Orn., vol. ii. p. 711.

——— *minor*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Coll. Brit. Mus., p. 32.

——— *hudsonicus*, Lath. Ind. Orn., vol. ii. p. 712.

——— *islandicus*, Brehm, Vög. Deutschl., p. 610.

Phæopus arquatus, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 36.

WHIMBRELS usually arrive in England in the early part of May, and disperse themselves along our coasts, particularly those of the eastern counties; they are then on their passage northwards; but a few remain to breed on the moors of Scotland, and perhaps on those of the northern parts of England also; but if any nests be found in our southern counties, the circumstance must be regarded as quite exceptional. Still it cannot be denied that a few remain and winter with us. On the Continent, the high lands of Norway, Sweden, Lapland, and Iceland are, among others, favourite breeding-localities.

Its range over the Old World is very extensive; for, besides occurring in all parts of Europe, Mr. Edward Vernon Harcourt includes it in his 'List of the Birds of Madeira;' Mr. F. du Cane Godman states that it is occasionally met with on the coasts of the Azores; it is found all over Africa from north to south; according to Mr. Jerdon it is very generally dispersed over India, and is supposed to go to Java, China, and Japan; indeed its range is probably even still more extensive; but it is not found in America, neither does it frequent Australia.

Mr. Stevenson's account of the Whimbrel as observed by him in Norfolk being equally descriptive of the bird in other localities, I quote it in his own words:—"The Whimbrel visits us regularly in spring and autumn, on its passage to and from its breeding-grounds; and though a few may be seen occasionally in March or April, the appearance of the main body in May on the Breydon and Blakeney muds is so invariable that the species is always spoken of as the 'May-Bird' by the gunners in both localities. Their numbers, as with all migratory shore-birds, vary much in different seasons; but at times they are very plentiful, as was particularly the case in the spring of 1863. Of these, the chief portion pass on to the northward after a few days; but small parties may be seen on different parts of the coast up to the middle of June, and even as late as July. At Hunstanton, in 1863, I found one or two small flocks frequenting the mussel-scalps up to the second week in June; and Mr. Dowell has observed them at Blakeney, in two or three different seasons, between the 25th and 30th of July, 'not paired off, but keeping together in "herds" of from eight to ten,' most probably birds which would neither breed here nor elsewhere during that summer. By the end of August or beginning of September, old and young together have again commenced their southward journey; but the numbers then seen are but few in comparison with the spring flight. In Mr. Dowell's notes I find no mention of this bird having been observed by him at Blakeney later than the first week in October; and Mr. F. Frere describes them as always scarce in autumn at Breydon, and rarely, if ever, seen during the winter months. Mr. Lubbock speaks of this species as having been occasionally very numerous at Horsey, visiting the marshes in considerable flocks in April and May; and in describing the habits of the bird he says:—"They are far more easy of access than the Curlews, and when disturbed make shorter flights, removing only from one marsh to another, instead of rising high in the air and forsaking the district altogether, as the Curlew generally does. They have a clattering confused cry in flight, which baffles any imitation by the human voice." This cry, however, according to Messrs. Sheppard and Whitear, resembles the sounds '*Weddy, tetty, tetty, tetty tet*,' quickly repeated."

In confirmation of his assertion that these birds are very plentiful at some seasons more than at others, Mr. Stevenson refers to Mr. Cordeaux's statement, in the 'Zoologist,' that a flock of at least two hundred appeared in the Humber district about the 3rd of May, and that on the 13th of May, 1868, he counted up to sixty-one in one flock, and saw another containing not less than double that number; and when speaking of their diminished numbers in autumn, he remarks that Mr. Cordeaux has noticed that in Lincolnshire, during the months of August and September 1866, the Whimbrels were seen in small parties, passing overhead at a considerable height, constantly repeating their call-note and flying in a south or south-westerly direction. Mr. Cordeaux also states, from his observation of the bird in the same county, that the Whimbrel is far more of a land-bird than the Curlew, feeding almost exclusively in marshes, and

retiring occasionally to the flats to rest and bathe, "being," adds Mr. Stevenson, "particularly fond of washing and splashing the water over their plumage with their wings."

"This is the only one of the Scolopacidae," says Thompson, "which can be characterized in general terms as a bird of double passage, only visiting us merely on migration to and from its breeding-haunts. In the month of April or May it appears in large flocks along the line of the eastern coast, on that of Wexford, Dublin, Louth, Down, Antrim, &c. As the Whimbrel is not found to the westward within the latitude of Ireland, it is interesting to know that these migratory bodies move as regularly along the western as the eastern coast. Thus they are very common in April and May near Tralee, in Kerry, appear in large flocks about Roundstone, on the Galway coast, in May, and remain during that month where they are unknown at other times. They likewise take an inland course of flight, appearing, among other places, at the marshes below Killaloe, on the Shannon, every spring, and in the high moory ground about Lough Conn, in Mayo. Their popular name everywhere has the word *May* connected with it, as May-bird, May-fowl, &c., in consequence of their appearance in that month. On their arrival in spring they are often very tame, and may be openly approached within gun-shot; but persecution soon makes them wild. They generally remain from four to six weeks, then depart, and reappear again very soon after the breeding-season, generally about the middle of July, their numbers gradually increasing from the time they are first seen. During August they are most numerous in the Bay of Belfast, from which they are chiefly gone by the end of September. In spring, Whimbrels generally keep by themselves; but in autumn they exhibit a very sociable disposition, and are frequently to be found in company with Curlews and Godwits. They fly much about during the autumnal nights, be they dark or moonlight, but prefer the latter. They may always be distinguished by their cry. They fly from the sea inland as well as the opposite direction, and take both courses during every turn of the tide; hence we may consider them to be night-feeding birds."

"In the beginning of May," says Macgillivray, "a few individuals of this species make their appearance here and there on the sandy pastures bordering the west coast of the long range of the Outer Hebrides, from one end to the other. Their numbers daily increase, until, in about a week, they are in many places very numerous. Their food consists of *Bulimus acutus* and *Helix ericetorum*, which are very abundant there. They walk, for the most part, sedately, but sometimes with alacrity, having their neck bent forward, and their regards fixed on the ground. If alarmed, they stand, elevate their heads, emit a shrill tremulous cry, and perhaps fly off, or presently resume their search. If surprised, they are clamorous in their flight, but usually alight at no great distance. When on the wing they display the white part of the back conspicuously, and have a beautiful appearance."

"The Whimbrel," remarks Mr. Hewitson, "breeds in wild, desolate districts, far distant from human habitation, on open moors and uncultivated wastes, choosing in preference those which are wet and marshy and composed of moss and that black peaty soil which is, in such places, a substitute for coal."

"The nest is nothing more than a slight depression in the surface of the ground. We might expect that the eggs, like those of all the allied species, would be four in number; but none of the nests I have myself examined contained more than three; as these were all fresh, the number was probably incomplete."

The late Mr. Wolley informed Mr. Hewitson that "in the Faroe Islands the Whimbrel is very abundant, and is always flying round just out of shot; in the north of Sweden and Finland it is to be seen in most of the open marshes, and is very noisy, especially when sitting at the top of a tree or stake (for it also frequents places where there is a good deal of wood). Yet I have never happened to be present at the finding of more than two nests; they were little more than depressions in the ground, and contained each three eggs only." From this additional information we must come to the conclusion that the Whimbrel lays only three. The eggs are pear-shaped, very like those of the Curlew, but smaller, and are of a dark olive-brown, blotched with darker brown.

I am indebted to Mr. J. Edmund Harting for a fine example of this bird, killed by him on the 11th of May 1870, in Pagham Harbour, in Sussex, to which, he states, the bird is "a regular visitant in May and August," as he believes is the case along the whole of our south coasts. "In May, only the old birds are seen; in August, both old and young make their appearance. The young admit of a nearer approach than the old ones, and are good eating."

The birds in the accompanying Plate are about the size of life.



LIMOSA MELANURA, Leisl.

LIMOSA MELANURA.

Black-tailed Godwit.

Scolopax limosa, Linn. Faun. Suec., p. 61.

Totanus limosa et rufus, Bechst. Naturg. Deutschl., tom. iv. pp. 244, 253.

Limosa melanura, Leisl. Nacht. zu Bechst. Naturg. Deutschl., tom. ii. pp. 150, 157.

Limicula melanura, Vieill. Nouv. Dict. d'Hist. Nat., tom. iii. p. 250.

Scolopax ægocephala, Linn. Syst. Nat., tom. i. p. 246.

——— *belgica*, Gmel. edit. Linn. Syst. Nat., p. 663.

Totanus ægocephalus, Bechst. Naturg. Deutschl., tom. iv. p. 234.

Fedoa melanura, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 73.

Limosa jadrega, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 32.

——— *ægocephala*, Leach, ibid., p. 34.

——— *islandica*, Brehm, Vög. Deutschl., p. 626.

IN England we have two Godwits with very distinctive characters, which at a glance may be distinguished at any age one from the other; and it would be well if the trivial names of Black-tailed and Bar-tailed and the specific ones of *melanura* and *rufa* should be always retained for these well-known birds. It will, however, be seen by the above list of synonyms that Gmelin called the present species *belgica*, Leach *jadrega*, Linnæus and Bechstein *ægocephala*; by most modern ornithologists, however, the term *melanura* is employed; and I accordingly adopt it.

Where a bird breeds, or has for centuries bred, that country must be regarded as the home of the species; Britain therefore is one of the homes of the Black-tailed Godwit. The Rev. Mr. Lubbock, when speaking of the marsh-birds in his 'Fauna of Norfolk,' says:—"Five species in particular used to swarm in our marshes—the Godwit, the Ruff, the Lapwing, the Redshank, and the Black Tern. These last bred in countless multitudes in a large alder-carr at Upton, near Acle, and dispersed themselves over the country for miles, while the Redshank in the breeding-season flew dashing around the head of any intruders on his territories, and endeavoured, like a Lapwing, to mislead strangers from the nest; higher in the air and flying in bolder circles, uttering a louder note was the Black-tailed Godwit, called provincially 'the Shrieker,' from its piercing cries. The bird is now almost extinct in this part of Norfolk; it used to breed at Buckenham, Thyrne, Horsey, and one or two other places." Lubbock's book was published in 1845; the interval that has since elapsed has not, as might have been expected, enabled other writers to add to the list of the breeding-places of the birds spoken of; and if either of them have bred in the localities mentioned it is certainly not the Black-tailed Godwit, the draining of the meres and the increase of the gunners preventing it from continuing to do so.

Whether associations be handed down among birds as among human beings, we know not; but, although the Godwit is no longer permitted to breed in the marshy districts of our eastern coast, it as regularly pays them a visit as the season runs round, and the bird is accordingly frequently seen and killed during the vernal and autumnal periods of the year in Suffolk, Norfolk, and Lincolnshire. The low shores of all the estuaries of England, Scotland, and Ireland having muddy flats are also visited by it. It must still breed in Holland; for its eggs form a considerable article of trade between that country and Leadenhall Market, where they may frequently be seen in the month of May exposed for sale, like those of the Lapwing, for the purposes of the table: their numbers, however, are becoming less and less every year; and probably the time is not far distant when the marshes of Holland and Friesland, like those of England, may not be tenanted by the Black-tailed Godwit.

In Ireland it appears never to breed; for although Thompson states that it now and then occurs there in great numbers, he makes no allusion to its nesting. That it speedily becomes habituated to the restraints of captivity is certain. "During my visits to the Gardens of the Zoological Society, in the Regent's Park, London, in May and June 1839," says Thompson, "the sight of eleven of these birds in one of the inclosures always gratified me. The first day I saw them was very warm. They were all standing in the same position, on one leg, with the other tucked up so as to be wholly invisible, the bill buried in the feathers, and the eyes closed. The next day that I went was equally fine, and the hour of my visit the same; but they were all actively moving about, and calling as if on the sea-shore. They appeared quite happy. It was interesting to observe their natural habit of driving the point of the bill into their soft oozy feeding-ground, here exemplified by several of them at the same moment probing the layer of straw with which the floor of their residence was covered. On my third visit the day was very cold in the shade, and the wind easterly. They all had their bills wholly buried in their dorsal plumage, and most of them had their eyes

closed ; but they nevertheless kept continually calling, without in the least degree changing their attitudes or moving the bill from its state of repose. Occasionally two or three would call at the same moment, the rule seeming to be that a continuous note was essential. It was amusing to see the vibration of the body of the bird when, supported on one leg, the call was uttered with the bill 'engulfed' in the plumage of the back. A Ruff in the same aviary seemed also quite contented, and displayed the well-known pugnacity of the species by striking with its bill any of the Godwits that came within reach. On one of the warm days he took possession for a time of a large shallow pan of water, and would not suffer a Godwit to partake of, or to cool its feet in, the liquid."

The Black-tailed Godwit is distributed over the whole of Europe, wherever situations suitable to its habits occur. In England it is most frequently seen in spring and autumn, during its passage to, and return from, its breeding-grounds in high northern latitudes. Mr. Rodd states that it has been killed at the Land's-end, but that it is uncommon in Cornwall ; Macgillivray says it is never very abundant in Scotland ; and Thompson that it frequents the coast of Ireland in autumn and winter in very limited numbers. Fabricius mentions that he had only seen a single specimen in Greenland ; and Reinhardt that, after his time, but one more example had been said to have been obtained there. Mr. Alfred Newton states that, according to Faber, it arrives in Iceland during the last week in April, and adds :—"I do not know that any naturalist has found its eggs in Iceland, but I have little doubt it breeds there. It seems to be rare (if it occurs at all) in the north. I obtained a fine pair in the flesh at Reykjavik, towards the end of June." Wheelright says it is a summer visitant to Lapland ; Loche states that it is a bird of passage in Algeria ; Swinhoe informs us that it is "said to be found on lakes and inland marshes in China, whence it is brought to the Tientsin and Shanghai markets in winter." It is probably from Mantchuria that these birds come. Temminck and Schlegel note it from Japan. According to Mr. Jerdon it is "found throughout India during the cold weather, generally in large flocks at the edge of water."

Mr. Hewitson states that the "eggs, which are four in number, differ considerably in size and colouring, some being of a uniform light olive-brown, and almost spotless, while others have the surface sprinkled with small but distinctly marked spots. Mr. Hoy informed me, in 1836, that on the Continent the nest is composed of dry grass and other vegetables, and is concealed amongst the herbage of the low swamps and meadows, and that the birds when disturbed are clamorous, flying round the intruder, and vociferating the cry of *grutto*, *grutto*, whence they have received their name among the people of Holland."

The food of the Black-tailed Godwit consists of insects and their larvæ, worms and other soft-bodied animals. Great difference exists in the size of the sexes, the female being nearly a third larger than the male, and frequently more richly coloured during the months of spring.

A male killed in April 1867 had the head and neck pale rufous, conspicuously striped with dark brown on the head ; back and scapularies rufous, crossed by broad irregular bands of black, the last of which, assumed on some of the feathers, the shape of a large blotch ; basal portion of the feathers brownish grey ; tips of the scapularies white ; wing-coverts dark-greyish brown, with paler margins, approaching to white ; greater coverts and wings dark brown, with white shafts, the tips of the coverts and the base of the primaries pure white, forming a conspicuous mark when the wing was spread ; most of the lengthened tertiaries grey, a few of them dark brown, deeply toothed with tawny, and tipped with grey ; lower part of the back grey, each feather narrowly fringed with white ; rump and upper tail-coverts pure white ; tail-feathers white at the base, black for the remainder of their length, except at the tip, where they were fringed with greyish white, the amount of the black slightly decreasing as the feathers receded from the centre ; breast rufous, barred with black and white, which latter gradually increased until the under surface became white, with a few bars of dark brown on the flanks and under tail-coverts ; bill yellow at the base, dark brown at the tip ; legs dark olive-green.

In the winter the head and neck are greyish olive-brown, and the back dark olive-brown. As the spring advances, a change of feathers takes place, the brownish olive colouring of the back giving place to cross markings of red and black, and by May the transformation is complete.

The weight of the female is 13 oz., of the male 10 oz.

The Plate represents a male and a female of the size of life—the male in change from its olive-brown dress to the rufous one of summer, and the female in her usual brown dress.



LIMOSA RUPESTRIS, Temm.

LIMOSA RUFA.

Bar-tailed Godwit.

Scolopax Lapponica, Linn. Faun. Suec., p. 62.

Limosa rufa, Temm. Man. d'Orn., 1815, p. 432.

Fedoa rufa, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 77.

Scolopax leucophæa, Lath. Ind. Orn., vol. ii. p. 719.

Limicula Lapponica, Vieill. Nouv. Dict. d'Hist. Nat., tom. iii. p. 250.

Totanus leucophæus, Bechst. Naturg. Deutschl., tom. iv. p. 237.

——— *gregarius*, Bechst. ibid. p. 258.

Limosa ferruginea, Pall. Zoogr. Ross.-Asiat., tom. ii. p. 180.

——— *Meyeri*, Leisl. Nacht. zu Bechst. Naturg. Deutschl., tom. ii. p. 172.

——— *Noveboracensis*, Leach, Syst. Cat. of Indig. Mamm. and Birds. in Brit. Mus., p. 32.

Fedoa Meyeri, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 75.

——— *pectoralis*, Steph. ibid. p. 79.

Actitis limosa, Ill. Prod. Mamm. et Av., p. 262.

Limosa lapponica, G. R. Gray, Gen. of Birds, vol. iii. p. 570, *Limosa*, sp. 3.

THE above long list of synonyms will show how much attention this well-known species has received from ornithologists; I trust, however, that it will not be encumbered with an additional name, and that the appropriate one of *rufa* will in future be retained as the specific appellation of the bird; *Lapponica* is certainly inappropriate, whatever may be its claims to priority; for the bird is not confined to Lapland, but is perhaps more generally dispersed than any other species of the genus.

If we take a glance at the northern regions of the Old World, as displayed on a map or an artificial globe, we see a few degrees to the eastward of the North Cape, between 70° and 75° N. lat., the island of Nova Zembla, standing out boldly in the Icy Sea; looking further east, we find the mainland of Siberia extending to a still higher latitude. These, and other parts of Siberia, with the interminable marshes and moorlands which skirt the rivers of that great country running into the Icy Ocean, from the sea of Kara, in the west, to Behring's Straits, in the east, northern Lapland and Finmark are, probably, the great nurseries of the Bar-tailed Godwit; and it is to those countries that the individuals which winter in Europe, China, and Japan most likely retire for the purpose of reproduction; I speak of Europe and China conjointly, because I think that the migratory movements of the birds may take place simultaneously in both those parts of the globe, and I may almost venture to assert that the individuals which return to Europe in the autumn have been breeding in Lapland, Finmark, and Nova Zembla. Some of these western Godwits winter with us in the British Islands, others on the estuaries of the rivers and sea-shores of the Continent; others, again, cross the Mediterranean, and distribute themselves in all favourable situations throughout Africa. The same influence, I have no doubt, affects the Chinese and Japanese examples which have bred in eastern Siberia; for they do not all stop in that country, but, like the western birds, impulsively seek a warmer climate, some individuals, I believe, extending their range, through the Philippine and all the intervening islands, to the continent of Australia, and even to Tasmania, on the shores of which island, in all suitable localities, I found numerous examples in their grey attire, but none in the red or breeding-dress. In asserting that it visits Australia I may be accused of discrepancy, since in my folio work on the birds of that country, and in my Handbook on the same subject, I treated the southern and northern Bar-tailed Godwits as distinct species; but I now believe them to be identical, and that the greater and less amount of spotting on the rump is a character not to be wholly depended upon. If this latter view be correct, how widely does this bird range! and how distant does it wander from its breeding-place! Young birds generally wander further from their birth-place than adults; and hence it probably is that we never see an Australian example in the red dress, which may not be acquired until the bird is on its return to the place in which it was bred.

Over Britain the dispersion of the Bar-tailed Godwit is very general; and wherever a tidal estuary or a low flat beach occurs, there it is sure to be found during the months of autumn. In the spring great accessions to those which have wintered with us take place, particularly on our eastern coasts, the additions mainly consisting of birds *en route* from more southern countries. They are now in their finest dress, having exchanged the grey plumage of winter for the rich chestnut livery of the approaching nuptial season; when thus attired in all the freshness of the spring moult, the bird, for a Sandpiper, is truly beautiful. May is the month in which they pass over Suffolk, Norfolk, and Lincolnshire, resting there for

a short time on the broads and inland waters. Unlike the Black-tailed Godwit, which makes, or rather did make, breeding-places of those localities, the present bird passes them by and proceeds to the higher latitudes of Lapland, Siberia, and Russia, in which a few solitary nests have been found; these localities, however, are, I am sure, merely the outskirts of its summer quarters. To justify this assertion, and to show that the outskirts only of their breeding-grounds have been entered on, I may state that I have at this moment before me the sale-list of the duplicate eggs from Mr. Wolley's collection, in which it is recorded that four pounds were given for one egg of this bird, and five pounds for another,—prices which must surely be considered enormous, and which clearly indicate that the most persevering oologist has not yet visited the bird's true breeding-quarters.

The Bar-tailed Godwit has two distinct lines of migration—a western one through Europe to Africa, and an eastern from China, through the Philippines, and across the line to Australia,—the great peninsula of India, and probably Burmah, forming a kind of neutral ground wherein it is seldom seen—so rarely, indeed, that Mr. Jerdon does not include it in his 'Birds of India,' although Mr. Blyth says that, "as a species occurring rarely in the Himalaya, it must be added to the Indian list." The immense range of the Himalaya Mountains, as we all know, are backed by almost interminable deserts of high land, forming a barrier over which either the Godwit or any other southern migrant would seldom attempt to pass.

"Eggs said to be those of the Bar-tailed Godwit," says Mr. Hewitson, "were brought from the North by the Rev. J. B. Tristram and also by Mr. Wolley, and with evidence sufficient to justify me in figuring them. The Bar-tailed Godwit was seen close to the eggs; the Black-tailed Godwit was never seen at all." Mr. Tristram, referring to the Bar-tailed Godwit, says:—"I found the bird in Finmark, and shot several specimens in breeding-plumage, without any trace whatever of the black tail; I got the nest, and shot the bird, a female, the same morning, close to the spot, but I did not flush her off the nest. Mr. Wolley's eggs corresponded so exactly with mine that we could not distinguish them; but they were at once to be recognized among twenty eggs of the common Godwit. I have no moral doubt whatever on the subject, though my evidence does not amount to absolute demonstration." Mr. Wolley says this species breeds in marshes, chiefly in the neighbourhood of mountains, and that it gets up so warily from its nest that it is difficult to find it. The eggs figured are from Rowa, near Kittila, in Finland; I cannot, however, with Mr. Tristram, see anything about them to distinguish them from eggs of the other species; their close resemblance was to be expected.

"Dr. Middendorff, who met with this species breeding in numbers on the river Taimyr, in Lapland, says that it was not easy to find the eggs, as the birds would leave their nests with loud cries when he was at a great distance from them. The eggs are found at the end of June, two or three in a nest."—*Col. III. Eggs of Brit. Birds*, vol. ii.

"That the Bar-tailed Godwit breeds in the neighbourhood of Quickiöck, in Lapland," remarks Mr. Wheelwright, "is pretty certain, although I never found the nest; but I fancy that although both the Godwits may breed here and there, in Lapland they principally do so more to the east. Both species are summer visitants around Vardö, in Finland. Sommerfelt however, has, never known the egg of the Bar-tailed to be taken there, although it breeds near Enara."

Speaking of the flight of the Bar-tailed Godwits, MacGillivray says it is "moderately rapid, light, somewhat buoyant, and greatly resembles that of the Curlew, and especially the Whimbrel. They emit a loud shrill whistle, and on rising utter a lower modulated sound somewhat like that of the bird just mentioned. Walking for the most part sedately, but sometimes running, they tap and probe the mud and sands in search of worms and other small animals, frequently mingling with Sandpipers and Ring-Plovers, along with which they often repose on the sands and neighbouring pastures at high water."

The number of Godwits that appear in different years varies greatly—but few in some, and many in others; generally speaking, too, the numbers that are seen in spring are much less than in autumn.

The sexes, like those of the allied species, differ very considerably in size, the female being by far the largest of the two.

The Plate represents the male in his spring dress, and the female in winter, of the size of life.



RECURVIROSTRA AVOCETTA, *Lin.*

Illustrated by J. C. Richter, del. et lith.

Waller & Coles, imp.

RECURVIROSTRA AVOCETTA, *Linn.*

Avocet.

Recurvirostra avocetta, Linn. Faun. Suec., tom. i. p. 191.

———— *europæa*, Dum.

———— *fissipes*, Brehm.

———— *helebi*, Brehm (Bonap.).

How much is it to be regretted that a bird so attractive in its general appearance, and so singular in its form as the Avocet, should be nearly extirpated from our island! yet such is unhappily the case; for, although it was formerly abundant, it is now very rarely to be met with. In all probability, it was never a stationary species with us, but one which, following the almost universal law of nature, was influenced by the seasons, and migrated as regularly as the Summer Snipe and the Ruff.

Except in England, it now breeds in most of the temperate countries of the northern parts of the Old World that are of a marshy character; and when the young have attained their full stature, which they do early in the first autumn of their existence, they wing their way southwards to other countries, where animal life, suitable to the well-being of a bird furnished with such a delicately constructed bill, is still rife. The upcurved form of this organ, which gives so singular an appearance to the bird, is most remarkable, being unsuited to probe the ground, like that of the Snipe or Woodcock, or to break the shell of ordinary-sized mollusks; the slightest frost, therefore, drives the Avocet before it to the oozy, muddy flats of estuaries, bays, and similar situations, where it can patter about with its wide-webbed feet, and gather small Crustaceans and sea-worms. Those who have seen a Stork or a Crane take a worm or frog by the tips of its long mandibles, and, with an upward movement of the head, drop it into its throat, will have a good idea of the actions of the Avocet when it has captured a small shrimp, a marine insect, or any other object upon which it lives, and will at once perceive that, with such a peculiarly formed beak, it could not feed in any other manner. Those authors who have had opportunities for observing the bird in a state of nature assert that it constantly moves its head from side to side after the manner of the Spoon-bill—a movement which is doubtless induced by the structure of the bill.

But, to return to the bird as an inhabitant of Britain, “time was” when the Avocet was a constant summer visitant to Norfolk, Lincolnshire, some parts of Suffolk, the coasts of Essex and Hampshire, and many other low and marshy parts of our island; in all these places it bred in small communities, and was as abundant as the Redshank is on our marshes and sandy dunes at the present time; but the gunner, in the exercise of his calling, has year by year gradually thinned their numbers by shooting them on their arrival, or by visiting their breeding-grounds, when the poor birds, alarmed for the safety of their young, fly round and easily fall a victim to his destructive propensities. Most wantonly, indeed, has the Avocet been shot down, with no other object than the pretence that its feathers were suitable for making artificial flies, which they are not, or for the chance of sale in the London market as an article of food—an excuse equally untenable. Up to a late period, that is, to within ten years of the time at which I am writing this brief history of the bird (March 1864), a few pairs still continued to visit some of the localities above enumerated; but, alas! even those few have now deserted us. In speaking thus precisely, I must not be understood to say that the bird is not to be met with at the present period in either of the three kingdoms; for occasional visitors still arrive; but their appearance is most irregular and uncertain, and the localities to which they resort are as varied as those in which other rare birds are found; and thus an Avocet may this year be observed in Cornwall, in Devonshire, Essex, or Norfolk, and in the next it may stilt over the muddy margins of the rivers of the midland and northern counties of England, or those of Scotland and Ireland. Of these accidental visitations we find numerous notices in the ‘Zoologist’ and other works devoted to the “occurrences of rare birds.” One of the last Avocets observed was seen near Poole, in Dorsetshire, by James Salter, Esq., to whom I am indebted for the following note respecting it:—“During the autumn of 1850 (I believe, in the month of October) I was at a place called Tattenham, about a mile from the town of Poole. My route lay along a narrow causeway which separates an arm of Poole Harbour on the one side, from a brackish marsh on the other. When I noticed the bird, it was busying itself at the edge of a small stream which runs through the marsh. I approached to within ten yards of it; it did not seem in the least degree alarmed at my presence, but continued scooping at the mud with its beak. In two or three minutes it rose and flew off to the harbour, uttering a sharp cry. The bird was in fine plumage, and apparently in good health.” On the continent of Europe it is still abundant in the north of Holland, in Holstein, and some of the islands in the Baltic. It also occurs in Germany, France, Spain, Italy, and Turkey, and, at the seasons of migration, crosses and recrosses the Mediterranean and Black Sea to Africa and Asia Minor; it is even said to be found

as far south as the Cape of Good Hope. It is an inhabitant of the salt lakes of Tartary and the shores of the Caspian Sea; and Mr. Swinhoe observed it both in Formosa and China, in which latter country he saw it on the banks of the Peiho in November, and frequently met with it in the market at Tientsin; it also occurs in Lower Bengal and other parts of India.

The genus to which this bird belongs is very limited in the number of its members, only four species being known; these are the European *Recurvirostra Avocetta*, the *R. americana* of North America, the *R. rubricollis* of Australia, and the *R. occidentalis*, if the bird so called be not identical with *R. americana*.

Latham states that the Avocet is said to feed on "worms and insects collected from the mud, chiefly *Cancer pulex* and *Locusta* (the sea-flea and locust)," and that it is "often seen to wade far into the water; it will also occasionally swim, but always close to the shore, is very bold in defence of its young, and, when disturbed in the breeding-season, hovers over the sportman's head like a Lapwing, and flies with its legs extended. Its note is sharp, and resembles the word *twit* twice or oftener repeated; hence it has received the trivial name of Yelper. Its actions and the form of its bill have also obtained for it in some counties the names of Butter-flip, Scooper, Picarini, Crooked-bill, and Cobbler's Awl."

"At the beginning of this century," says the Rev. Mr. Lubbock in his Observations on the Fauna of Norfolk, "the Avocet used to breed constantly and in considerable numbers at Horsey, but has not done so of late years. On the authority of an old and respectable fen-man, it bred regularly forty years ago near the Seven-mile House, on the North River; occurs still sometimes upon Breydon. The last I know of, positively, in the fens was a small flock which visited Sutton Broad in 1828. Avocets used formerly to breed at Salthouse, near Holt, but are extinct there. The provincial name is 'Shoeing-Horn.'"

Mr. Yarrell states that "some years ago I was told that more than twenty specimens were received at Leadenhall Market for sale within one month, but now scarcely an example appears once a year; the last I heard of was in the spring of 1837."

After mentioning that Avocets are occasionally, but rarely, met with in the north of England or in Scotland, Mr. Selby says, "They assemble in small flocks, and frequent oozy and muddy shores, particularly those of the mouths of rivers, where they obtain a plentiful supply of food, consisting of small worms, marine insects, and young univalve and bivalve Mollusca. Their mode of feeding is by scooping, or in appearance beating the soft mud with their flat and upturned bill; and when thus engaged, they frequently wade up to their breasts in the pools left by the receding tide. They are never seen to swim voluntarily, although furnished with feet so extensively palmated as to constitute an admirable provision for enabling them to traverse the soft and yielding substance in which they find their food. Their legs also are formed for wading, being laterally compressed and thin, and thus offering the least possible resistance to their progress through the water. They are quick and active birds; and their flight, from the form and dimensions of their wings, is powerful and rapid. In spring they resort to those marine marshes which are only occasionally or partially covered by the tide, and select the driest part for the purpose of nidification. If disturbed at this season, particularly when the young are first excluded, they fly round in repeated circles, uttering at the same time without intermission their peculiar cry, which resembles the word *twit* twice repeated."

The eggs (which are said to be deposited in a small depression of the surface in the drier part of the marsh, either on the bare ground or on a small quantity of dry grass) are two and sometimes three in number, of an ochreous brown, spotted and speckled with black, some of the spots appearing as if beneath the surface of the shell; they are about two inches in length by one inch and a half in breadth. "Some specimens," says Mr. Hewitson, "are larger and more irregularly and closely covered with unequal blotches of colour, a good deal like those of the Peewit, from which they may always be distinguished by the greater quantity of ochreous yellow in the ground-colour."

The sexes present little, if any, difference in the colouring of their plumage; neither am I aware that the bird is subject to any seasonal change; having attained their full dress, they are ever after distinguished by their black and white livery.

The young, until they are clothed with feathers, closely resemble the young of the Summer Snipe (*Actitis hypoleucos*). It will be seen by the accompanying drawing, that at this early period their legs and toes are very similar to those of the adult in colour, except that they are tinged with green; they are, however, disproportionately large, and very tumid at the joints.

Crown, occiput, nape, back of the neck, scapularies, lesser wing-coverts, and primaries black; the remainder of the plumage pure white; beak black; irides reddish brown; legs and toes pale blue; webs dark brown; nails black.

The young at about three weeks old, when they are beginning to assume their stub-feathers, have a dark line before and behind the eye, and the upper surface of a pale creamy brown, crossed by irregular bars of dark brown, and a wash of rufous on the scapularies; some of the more elongated feathers are said to retain a reddish-brown tint on their ends until the autumn moult of the bird's second year of existence.

The Plate represents an adult and two young birds about three weeks old, of the natural size.



GLOTTIS CANESCENS.

Greenshank.

- Scolopax canescens*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 668.
Totanus griseus, Bechst. Naturg. Deutschl., vol. iv. p. 231.
——— *fistulans*, Bechst. ibid., p. 241.
——— *glottis*, Bechst. ibid., p. 249.
Limosa glottis, Pall. Zoog. Rosso-Asiat., tom. ii. p. 179.
——— *totanus*, Pall. ibid., p. 183.
Glottis chloropus, Nilss. Orn. Suec., tom. ii. p. 57.
——— *canescens*, Strickl.
Limicola glottis, Leach, Syst. Cat. of Indig. Mamm. and Birds in Coll. Brit. Mus., p. 32.
Glottis grisea, Brehm, Vög. Deutschl., p. 631.
——— *fistulans*, Brehm, ibid., p. 631, tab. 33. fig. 2.
——— *natans*, Koch, Baier, Zool., tom. i. p. 305.
Totanus chloropus, Meyer, Vög. Liv- und Esthl., p. 199.
-

THE Greenshank is one of the most sprightly and elegant of our Sandpipers. With us it is only a summer visitant; for, if it ever be killed here in winter, the circumstance must be regarded as exceptional. Twice a year, in spring and autumn, it passes over our islands, from north to south and *vice versâ*, with the utmost regularity. From the middle of April to the middle of May it may be found in most of our low marshy districts—such as the Isle of Thanet, the mouths of the Thames and Medway, and in all similar situations in Essex, Suffolk, Norfolk, and Lincolnshire. The birds are now proceeding northward to the highlands of Argyll, Ross-shire, Sutherland, and Caithness, in each of which counties it resorts to the wildest districts, to breed and rear its young. In every situation, whether it be on the sea-shore, in the marsh, or on the mountain-side, the bearing of the bird is bold and animated; but on the slightest alarm it becomes shy and distrustful, and its usual whistling note shrill and weird-like. These traits in the character of the Greenshank render it a great favourite with ornithologists. I will now mention some few of the localities where it breeds; but I do so with reluctance, being indisposed to be the means of attracting to them the attention of those merciless persons whose aim and desire seems to be the destruction, rather than the preservation, of our rarer native birds. The wild flats on the borders of Loch Assynt and the neighbouring hills are annually resorted to by a few pairs of this lonely bird—as are also the bogs at the back of Arkle and Foineven, in the Reay forest, and the moorlands near Thurso, in Caithness. By those who are unacquainted with the habits of the larger *Scolopacidæ* the nest would rarely be discovered, since they would naturally look for it round the edges of the pools and lochs where they have seen the bird running and feeding; whereas its four beautiful eggs are deposited far up on the sunny mountain-side, or in the centre of the wide flat, where they are most difficult to find unless the bird be very closely watched. The season of incubation having terminated, and the young acquired sufficient strength to enable them to quit their heathery home, another migration takes place; and in August and September the Greenshank may again be seen in the more southern parts of our islands above mentioned. Thence they gradually pass over to the Continent and proceed to other countries to the southward, as far, it would seem, as land trends in that direction; for I found birds, both in the winter and the young dress, in many parts of Australia; I believe it also occurs in the intervening country of Java, and is distributed over the whole of India, from the Himalayas to Cape Comorin. Had it also been found in America, it would have been a cosmopolite. Besides the Scottish hills, those of Lapland, Finmark, and Siberia afford this wanderer equally suitable summer residences; in a word, the Greenshank inhabits the warmer latitudes of the Old World during the winter solstice, and its northern regions at the opposite season.

“Though of regular annual appearance in the north of Ireland,” says Thompson, “it comes in extremely limited numbers, and is one of the earliest species in arrival after the breeding-season—a fact to which our attention is directed by its peculiar cry. It appears in Belfast Bay about the middle of July, and may be readily known on the shore from the most nearly allied species, the Redshank, by its superior size; its note, too, though generically similar, at once distinguishes it from that bird. It sounds like the word *twee* prolonged, and uttered moderately slow three times. On the oozy banks and gravelly shore of Belfast Bay it may be observed, feeding busily, wading deep in search of its prey, and evincing a great partiality for the fresh-water rivulets that course through the mud-banks at low water. I am not aware of its breeding in Ireland.”

“In the Outer Hebrides,” says Macgillivray, “it is seen early in summer, and generally departs in October, although I have seen individuals there in November. Previous to the commencement of the breeding-

season, and after the young are fledged, it resorts to the shores of the sea, frequenting pools of brackish water and the shallow margins of bays and creeks. It is extremely shy and vigilant, insomuch that one can very seldom shoot it, unless after it has deposited its eggs. Many remain during the summer, when they are to be found by the lakes in the interior, of which the number in Uist, Harris, and Lewis is astonishing. At that season it is very easily discovered; for, when one is perhaps more than a quarter of a mile distant, it rises into the air with clamorous cries, alarming all the birds in the neighbourhood, flies round the place of its nest, now wheeling off to a distance, again advancing, and at intervals alighting by the edge of the lake, when it continues its cries, vibrating its body all the while.

"A nest found in the island of Harris, at a considerable distance from a small lake, consisted of a few fragments of heath and some blades of grass, placed in a shallow cavity scraped in the turf, on a slight eminence—covered chiefly with moss, lichens, some carices, and short heath. The eggs, placed with their narrow ends together, were four in number, pyriform, and of a pale yellowish green, sprinkled all over with irregular spots of dark brown intermixed with blotches of light purplish grey, the spots and, especially, the blotches being most numerous at the larger end. The dimensions of one of them was exactly two inches by one inch and three-eighths.

"In ordinary circumstances the Greenshank searches the shores in muddy places for food, often walking out into the water until it nearly reaches to the tarsal joint. It generally advances with rapidity, running rather than walking, and almost continually vibrating its body. On being disturbed it stands with upraised neck, emits a succession of loud and shrill cries, and, though there should be little danger, it flies off to a distance. Its flight is rapid, gliding, and devious; and it alights abruptly, runs to some distance, stands and vibrates."

For the following note, on the occurrence of the bird in another part of Scotland, I am indebted to the Duke of Argyll:—

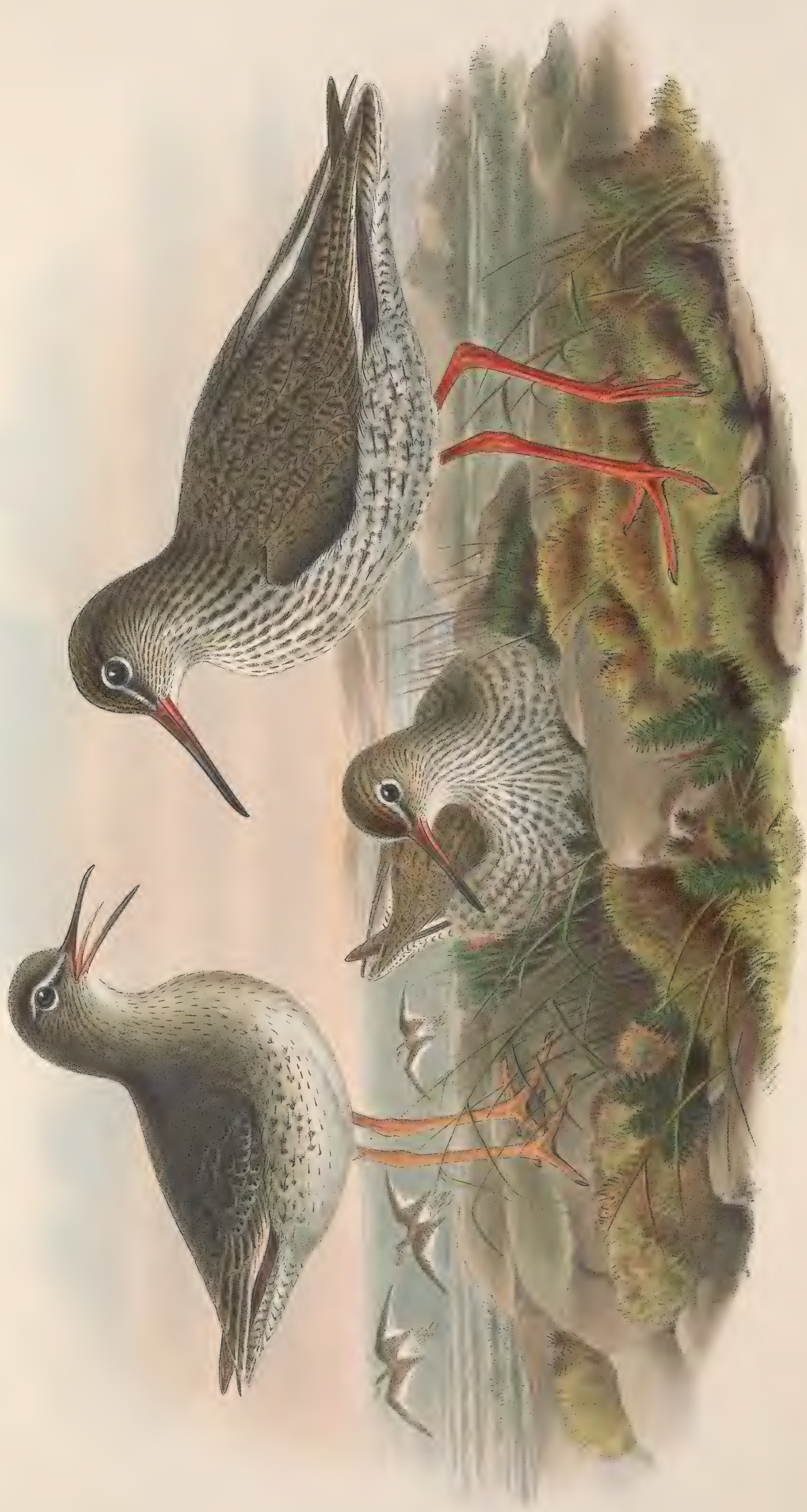
"The Greenshank comes to our shores in Argyllshire, and on the Clyde, rather earlier than the Redshank, but in much smaller numbers. It is often solitary, seldom more than one pair together. It is very shy, and emits a loud piping note at frequent intervals. Its alarm note is loud and vociferous. Its habits are extremely active, more so than those of the Redshank, in its search for food along the margins of the ebb. I have never seen it, except on the shore of our deep arms of the sea. Its flesh is excellent, far superior to that of the Redshank."

The late Mr. Wheelwright, in his 'Notes on the Ornithology of Lapland,' says:—"The finest, and perhaps the commonest of the Waders is the Greenshank; it is one of the earliest to arrive in spring, and certainly the earliest to leave in autumn. Having a good opportunity of studying its habits in the breeding-season, I was struck with their resemblance to those of the Green Sandpiper. The wild nature of the bird, its loud, shrill cry of '*chee-wheet, chee-wheet*' as it dashes through the air with the speed of an arrow, and its partiality for woodland lakes and streams, all prove its affinity to that species; and, save that I always took the eggs from the ground, the habits of one bird appeared exactly to resemble those of the other. The eggs of the Greenshank are often laid far away from water. I once took the eggs from a thin layer of leaves on a stony rise in an open forest, about one hundred yards from a small stream. I observed that, as soon as the young were hatched off, the old birds led them down to some grassy swamp in the forest; and I have met with three or four families in the same spot. It is now that the wild cry of this bird is heard to perfection if you enter the swamp with a dog; and it is a pleasing sight to see how little fear the old birds display in endeavouring to drive the intruder from the spot. No trying to allure him away by sham pretences, as the Lapwing and many other birds do, but a downright courageous attack, which never ceases until the dog is fairly beaten off. I have often seen the Greenshank settle in a tree."

Like many of the other Sandpipers, the Greenshank is subject to a seasonable change in the colouring of its plumage, though not to so great an extent as the Knot and Dunlin. At the season of reproduction the plumage is much darker than in winter, the increased depth of colour being due to the centre of the feathers being more or less streaked with black. The birds of the first autumn have the delicate grey feathers of their upper surface margined with a still lighter tint, imparting to them a very pretty appearance.

At all seasons the two sexes are alike in colour, and but little different in size, the female being the larger of the two.

The Plate represents the bird of the natural size, with a reduced figure in the distance.



TOTANUS CALIDRIS.

Howard & M. Richardson del et lith.

Walter Inup.

TOTANUS CALIDRIS.

Redshank.

Scolopax calidris, Linn. Syst. Nat., tom. i. p. 245.

Totanus calidris, Bechst. Naturg. Deutschl., tom. iv. p. 216.

—— *littoralis* et *striatus*, Brehm, Vög. Deutschl., pp. 636, 637.

Tringa gambetta et *striata*, Gmel. edit. Linn. Syst. Nat., tom. i. pp. 671, 672.

—— *variegata*, Brünn. Orn., no. 181.

Gambetta calidris, Kaup, Natürl. Syst., p. 54.

I KNOW of no sound more exhilarating to the naturalist engaged in an expedition to the breeding-haunts of this pretty species than that of its wild piping call, as it falls upon his ear when he first treads the shingly spits or sandy embouchures of rivers which it has selected whereon to deposit its eggs and rear its young. The restless males flit here and there before him and perch, one on a stone, another on a gate, a third on the gable-end of a deserted cottage, or fly around over his head, with their coral-red legs depending at right angles to their bodies, or streaming out behind. During the month of May such scenes as these might have been seen in the days of my youth in a hundred places between the shingly flats and morasses on the coasts of Essex, Suffolk, and Norfolk, from the mouth of the Thames to the Humber, but, according to Mr. Stevenson, are not so frequently to be witnessed at the present time. Similar scenes present themselves in many other parts of England, in some situations in Scotland, and still more numerous in Ireland. In winter most of the low, flat coasts of the British seas constitute a favourable abode for it, the receding tides furnishing it with an abundance of food, such as sea-worms, mollusks, crustaceans, and marine insects. Besides incubating in the situations above described, the bird occasionally breeds far inland, in warrens, and on wet, sippy commons. Premising that it is both a summer and a winter resident with us, I may state that it is also an inhabitant of North Africa, Asia Minor, India, China, Formosa, and Japan.

Selby, Macgillivray, Yarrell, and indeed every writer on our native birds, from Montagu to Stevenson, have each wielded their pens respecting the Redshank; what, then, can I have to add that is new? Shall I not rather avail myself of part of the account given of it by Thompson, which Mr. Stevenson affirms is the best that has yet appeared, with the addition of any remarks from other authors which may be of interest?

“This bird appears to be much more numerous around the shores of Ireland than those of Great Britain; for even in the north it is very numerous in all kinds of weather, though autumn is the season of their greatest profusion. Oozy shores covered with the *Zostera marina* seem to be preferred; and this may possibly be at least one reason of the great abundance of Redshanks on the Irish coast, where there are so many bays of this description. But they are by no means limited to such localities. There is considerable variety in the nature of the estuaries and loughs of Antrim and Down, Dublin Bay, Wexford, and Cork Harbours, the bays of Kerry and Connemara, &c.; yet all are frequented by very great numbers. Even to the low and jagged rocky shore, when exposed by the fallen tide, these birds are partial, minute crustacea and other objects which constitute their food being plentiful in such places. This species appears in flocks in Belfast Bay early after the breeding-season. On the 18th of July young birds have been shot; and occasionally great numbers have arrived before the end of the month. From this period they remain, without any diminution of their numbers, except of those that may be killed; and they are too wary to admit of any great sacrifice in this manner, at least with the ordinary gun. The most I have heard of being killed with it at one shot were twenty-five; but the swivel-gun sometimes makes awful havoc among them: 108 were killed at one shot early in September 1846; and a day or two previously 112 fell at a single discharge. When the flowing tide puts them off their feeding-ground, rather than be driven within shot of any ambush on the shore, they adopt the Curlew’s custom of retiring to rocky marine islets several miles distant. Thither they follow the ‘flights’ of that cautious bird, stationed a little apart from which I have seen several hundreds congregated, patiently awaiting the falling of the tide. When much disturbed they likewise betake themselves to the comparative solitude of Strangford Lough. To see a flock of not less than a thousand spring direct from the beach high into the air until they attain the elevation of the intervening hills which have to be crossed, and then, in rapid flight, bear straight onwards to Strangford, is an interesting and beautiful sight. During late years these flights have been taken less frequently, the birds having discovered a tract of good feeding-ground, about two miles in length, on the Antrim side of the bay. They remain there daily in great numbers, about the time of high water, for eight months of the year. What may seem timidity or fear on the part of the

Redshank should rather be attributed to restlessness of disposition, which is even manifested when the bird is on the wing; for not more than a moment does a flock present the same appearance. It is now a round ball, next instant shoots out like a sky-rocket, appears in single file, and, after assuming every imaginable form, perhaps rolls itself into a ball again, the whole being done with equal rapidity and grace, whether it rises high into the air or sweeps the surface of the sea. Its varied action on the ground is very pleasing, and the nodding of the head is often quite grotesque; indeed, at Roundstone or Connemara, where the bird is numerous, it is commonly known by the name of '*Shake*,' on account of this habit.

"Every month in the year the Redshank may be seen about our shores, though in the breeding-season not more than one will be met with for a hundred at other times. Little flocks, as well as single birds and pairs, occur on the coast in the height of summer. I saw flocks of them on the 20th and 21st of June 1832, about some of the low rocky islets in Strangford Lough; and our boatman stated that the Redshanks breed on some of the islands every year, and that they find their nests, containing three or four eggs each, on the gravelly or shingly beach. Among inland localities they breed in the Bog of Allen, and near Mountainstown, in the county of Meath, as numbers annually do in moory swamps about Lough Conn and on the banks of the river Mayo, in the county of that name.

"Naturalists, treating of this species as a *British* bird, seem to consider that all the Redshanks frequenting the shore are bred in the country. They describe it as on the coast in autumn and winter, and retiring inland to breed, without, so far as I have observed, alluding to any migration northward of Great Britain for that purpose. Of the numbers, however, that are on the Irish coast the vast majority must have been brought up in more northern latitudes."—THOMPSON, *Birds of Ireland*, vol. ii. pp. 202 *et seq.*

"Grateful to the ear as the melody of the Song-Thrush when heard from the branches of the yet leafless trees," says Mr. Stevenson, "or the first whistle of the Stone Curlew and the Ringed Plover in their desolate haunts on the warrens and 'breck' lands, is the scream of the Redshank in the early spring, just returned to its summer haunts amidst the broads and marshes. In such localities, in very mild seasons, they may be heard as early as the middle of February, but are more generally seen in pairs about the beginning of March, when their nervous actions and swift jerking flight, added to their incessant and clamorous cries, enliven the dreariest waste of marshy ground. It is noticeable also that, in the breeding-season, the male Redshank has a 'song' of its own, quite as much as the Ringed Plover or the Common Snipe. More than once too, in the early spring, have I seen the male bird, as Mr. Lubbock describes it, 'pirouetting' on a gatepost, now running quickly along the top rail, calling loudly to its mate, now bowing and fluttering like an amorous pigeon, and less mindful of danger than at any other time. The first eggs are usually laid by the middle of April, and are so artfully concealed that, unless their construction is known, many might pass unnoticed in a very small space. A hollow is formed in the centre of a tuft of grass, part of which, trodden down, forms the only lining, whilst the remainder, arching over as it were at the top, effectually conceals the eggs from view; and as the bird enters and leaves it from the side, and the grasses are either drawn or fall naturally over the openings, the little runs thus made in the surrounding herbage are the only guides to its whereabouts. I have examined several of these singular evidences of instinctive wisdom, and have always found four to be the full complement of eggs, laid in a slight hollow, with their small ends inwards.

"During incubation, and more especially when the young are hatched, the parent birds become even more difficult of approach, and leaving their nests, like Lapwings, on the first alarm, fly screaming round the intruder, their anxiety being evinced by strange aerial evolutions."

For some very interesting details respecting the actions of the birds under these circumstances I must refer my readers to Mr. Stevenson's valuable '*Birds of Norfolk*,' vol. ii., from which the above extract was taken.

Mr. W. Vincent Legge, in his '*Oological Notes from South-east Essex*,' remarks that the eggs of the Redshank appear to "vary much in character." They are mostly of an ochre-yellow or greenish yellow ground, with bluish grey spots, and then blotched all over, especially at the larger end, with sepia. One clutch had the ground greenish white, with minute specks of brown over the whole surface, and large blotches and clouds of sepia round the larger end; these were much pointed, and the shells very thin.

The summer-plumage of the Redshank differs very considerably from that of winter. At the former season the body is strongly spotted and marked with black, while at the latter the upper surface is of a nearly uniform tint, and the under surface is much whiter. During flight a W-shaped mark produced by the white tips of the primaries and secondaries shows very conspicuously.

The Plate represents a male and a female in summer plumage, and a young bird of the first autumn, all of the natural size.



TOTANUS FUSCUS.

Spotted Redshank.

- Scolopax fusca*, Linn. Syst. Nat., tom. i. p. 243.
——— *totanus*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 665.
——— *curonica*, Gmel. ibid., tom. i. p. 669.
——— *cantabrigiensis*, Gmel. ibid., tom. i. p. 668.
Totanus fuscus, Leisl. Nacht. zu Bechst. Naturg. Deutschl., tom. i. p. 47.
——— *natans*, Bechst. Naturg. Deutschl., tom. iv. p. 227.
——— *maculatus*, Bechst. ibid., tom. iv. p. 203.
——— *ater*, Brehm, Vög. Deutschl., p. 634.
——— *Raii*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 31?
Tringa atra, Lath. Ind. Orn., vol. ii. p. 738.
——— *longipes*, Meisn. & Schinz, Vög. der Schweiz, p. 216.
Erythroscelus fuscus, Kaup, Natürl. Syst., p. 54.
-

EXTENSIVE as is our avifauna, and numerous as are the species of which it is composed, it is in a great measure made up of migrants which merely pay us passing visits as they proceed to and return from their summer and winter homes, and accidental visitors driven out of their course. Among these the present bird must be enumerated. It belongs to the *Totani*, perhaps the most elegant of the Sandpipers; for whether running by the waterside, or winging their way over the marsh, their actions are preeminently graceful; their plumage is generally in perfect trim; and even those which frequent the dirtiest of water-courses keep their white parts clean and unsullied. The Spotted Sandpiper may be regarded as the chief of these interesting birds; for it is of large size and beautifully proportioned. It is a bird which is subject to an unusual number of changes; and even when fully adult, its dress during summer is remarkably different from that of winter. In its young state its entire under surface is covered with obscure crescentic light-brown markings, the sides of the neck are decorated with numerous short brown striæ, each feather of the upper surface is margined at the tip with a necklace-like series of coalescing greyish-white spots, and the legs and feet are coral-red; while the adult, in summer, has the head, neck, breast, and under surface sooty black, with the exception, in some individuals, of a crescent of white at the tip of each of the flank-feathers, and the legs are reddish black. In winter the upper surface is nearly uniform olive-brown, and the under surface all but pure white. Both sexes are alike in plumage at all seasons; and thus the female is as black as the male in summer, and as white as that sex in winter. It is in the young state that it is most frequently seen in the British Islands; but many instances are on record of adults having been killed in the winter dress, and of some few in the full dress of summer, at which season the white of the neck and under surface has given place to sooty black, as shown in the front figure of the accompanying plate. Such transformations as these are naturally very puzzling to the ordinary observer; and it was only after much patient research that they became thoroughly known to the scientific ornithologist. Those collectors who are in the habit of inspecting the London markets may frequently alight upon a fine example of this bird, which has been turned out of a basket sent up from Yarmouth, Ipswich, or some part of Lincolnshire; and the gunners of the Norfolk broads, the Suffolk estuaries, the Orwell, the lower Thames, and the Medway often meet solitary individuals in the months of August and September, when the bird is on its passage southwards. In spring it is again seen in the same situations, and by the same class of men, but less frequently; and that it comes to our island later in the season is certain; for Mr. Harting, in his 'Birds of Middlesex,' states that a fine specimen in full breeding-plumage was killed at Kingsbury reservoir, in June 1841, and is now, he believes, in the "Boys' Museum" at Eton College; that the bird also visits the interior of England in winter, is proved by the record in the same volume of a specimen in the plumage of that season, which had been shot on the Brent in 1849. But I find no recorded instance of its breeding either in this country or in Scotland; both Macgillivray and St. John are silent on the subject; and we must go further north if we wish to personally study this part of the bird's economy. If, on the other hand, we can be content with a vivid description of it, it is ready to our hand from the pen of the late Mr. John Wolley, who devoted his whole life to the advancement of ornithological science, and who with this view almost hybernated among the snows of Lapland to witness in spring the arrival there of so many of our rare birds; and I shall without hesitation avail myself of Mr. Hewitson's permission to extract the entire passage from his valuable 'Coloured Illustrations of the Eggs of British Birds.'

"It is with much pleasure," says Mr. Hewitson, "that I am enabled not only to give figures of the eggs of this species, hitherto unknown, but also to add the following most interesting particulars kindly sent me by Mr.

Wolley from Finland :—‘ I expect that henceforth the Spotted Redshank will always start up in my memory at the mention of Lapland : it is so peculiar to the country, so remarkable in its appearance in summer, and so often attracts attention by its striking actions ; added to which, my ignorance of its nest and eggs for a whole year after my arrival thus far north kept up in my mind the liveliest interest concerning it. It was easy to talk about a bird with so much character ; and I soon found it was known amongst the people by several names, all more or less expressive ; and in my drives about Finland and into Norway during the winter I had heard from so many quarters accounts of its nesting-peculiarities, that I only waited for its return here to verify them. It came as soon as the snow was off the ground, and laid its eggs with very little delay. At this time a singular call is heard in the marshes, which the Fins express by the sound *reevat*, corresponding to a word in their language meaning an evil spirit ; and one of the names of the bird is taken from it—a name always spoken with a spiteful emphasis by rein-deer stalkers ; for the Rivatter is as mischievous to them as the grey crow is to a Highland forester, or a gull to a seal-shooter ; but the cry with which it spoils their sport is *tjeuty* ; and from this another name is derived, generally coupled with the distinctive epithet corresponding to black, or with one meaning burnt wood ; but whether this last is taken from the colour of the bird, or from a common place of resort for it, or both, I am not sure. Certain it is that this black bird not unfrequently lays its eggs in a part of the forest which has formerly been burnt ; and here is one of its most unexpected peculiarities—a marsh-bird choosing the driest possible situation, even hills of considerable height and covered with forest timber. I have seen two nests so placed ; and one of them was on ground which, from the charred wood lying about, had evidently been burnt at some former period. They were nearly at the top of long hills, many hundreds of yards from any marshy places, and with good-sized fir trees on all sides ; but they were not in the thickest part of the forest ; and the vegetation on the ground round about was very scanty, diminutive heather and such like plants, growing thinly amongst short reindeer lichen. Here they were placed in slight depressions of the ground near some small ancient logs so nearly buried as to afford no shelter, on a bedding of only a few dry leaves of Scotch fir. The bird sometimes sits so close that one is tempted to try to catch it with the hand. Its white back is conspicuous as it crouches with its neck drawn in ; and it either gets up at once or runs a short way before it rises, and then flies round with an occasional *tjeuty*, or stands upon the top of a neighbouring tree, showing the full length of its slender legs, neck, and bill. But it is not until it has young that all its powers are brought into play : it then comes far to meet any intruder, floating over him with a clear cry that echoes through the forest, or may be heard over a great extent of marsh, or stands very near, bowing its head and opening its bill quite wide in the energy of its gesticulation. The eggs, four in number, are of a rich green ground-colour when fresh, or sometimes of a bright brown. This year they were laid hereabouts at the end of May. The young are probably carried into marshy land as soon as they are hatched ; for there they are to be found while still very small. I am told that dry mounds rising out of swamps are sometimes chosen as breeding-places.

‘ The nests described were stumbled upon in walking through the forest, where the bird is scattered usually at wide intervals, only two or three pairs being seen in the course of a long day’s walk. The bird is so wary that I have never succeeded in watching it to its nest.’ ”

It must not, however, be supposed that Norway and Finland are the only countries in which it summers and performs the duty of reproduction ; for there can be but little doubt that all suitable situations in similar latitudes of the Old World are alike resorted to, and consequently that it is as plentiful in northern Russia, Siberia, and Mongolia as it is in the far west. I presume, at least, that such is the case, because we know that it is a winter resident in North Africa, India, and China ; and we may therefore conclude that the individuals frequenting those countries pass vernal and autumnally north and south ; this it is pretty certain is the route of the Woodcock, and doubtless of this bird also.

Mr. Hewitson has figured three beautiful varieties of the eggs of this species, and remarks that they vary as “ much as those of the Terns, while in the elegance of their form they are truly typical of the eggs of the *Scolopacidæ*.”

Of the three figures above mentioned one is greenish olive, blotched (particularly round the middle) with dark and reddish brown ; the second is pale greyish green, similarly but not so much marbled with brown ; and the third is of a tawny hue, blotched all over with dark and purplish brown.

The front figure in the Plate represents the bird in the full summer dress, the centre one that of immaturity, and the reduced figure in the distance that of winter. The two former are of the natural size.



TOTANUS OCHROPUS.

TOTANUS OCHROPUS.

Green Sandpiper.

Tringa ochropus, Linn. Syst. Nat., tom. i. p. 250.

——— *Aldrovandi*, Ray, Syn., p. 108, A 7, 8.

——— *glareola*, Markw. in Trans. Linn. Soc., vol. i. p. 128, and vol. ii. p. 325.

Totanus ochropus, Temm. Man. d'Orn., p. 420.

———, *rivalis*, et *leucourus*, Brehm, Handb. Naturg. aller Vög. Deutschl., pp. 641, 642, 643.

Helodromos ochropus, Bonap. Compt. Rend. de l'Acad. des Sci., tom. 43, séances des 15 et 22 Sept. 1856.

Helodromas ochropus, A. Newton, in Proc. Zool. Soc. 1863, p. 529.

THOSE persons who are in the habit of wandering over meads and grassy lands, with their little round ponds for the watering of cattle, or by the sides of brooks, rivulets, and reservoirs, must have frequently risen a bird about the size of a Snipe, conspicuous for its strong and rapid flight, and for the loud whistling cry it emits as it mounts in the air. This is the Green Sandpiper—a bird which frequents the smallest water-holes as well as the margins of streams. In such situations this elegantly formed bird trips lightly over the oozy mud or along the edge of the water in search of insects and their larvæ. Although it is sometimes seen both in winter and summer, it is most frequently met with during its spring and autumnal migrations; at other periods it is either breeding in countries further north, or wintering in more southern latitudes. That it never stays and breeds with us is almost certain, notwithstanding the assertion of some ornithologists to the contrary. Wide-spread, indeed, is it in the countries of the Old World, since it is very generally distributed over the whole of Europe, Africa, India, China, and Japan. I have received specimens from Borneo; and it doubtless visits the neighbouring islands of Sumatra and Java, as it certainly does St. Helena in the South Atlantic.

That exceptions to general rules exist in the habits of birds as well as in all other animals, is shown in many instances; but, I presume, it never entered the brain of the most imaginative ornithologist that a Sandpiper laid its eggs high up in a tree, until the fact was made known by the foresters and *savans* of Scandinavia and Pomerania; and if positive and authentic evidence of the truth of their statements had not been produced, such an assertion would not have been believed. It is only as yesterday that its anomalous habit of depositing its eggs on the branches of trees has become known. The Peewit resorts for the purpose of nidification to open commons and waste lands, the Ruff, the Redshank and the Wood-Sandpiper to the marsh, the Summer Snipe to the sedgy banks of streams, and the Dunlin to the upland moors; the Green Sandpiper, on the other hand, searches for the deserted nest of a Pigeon, a Jay, a Thrush, or the drey of a Squirrel, in which to deposit its very beautiful eggs. This fact may take some of my readers by surprise; but all I have said is confirmed in a paper on the subject, read by Mr. Alfred Newton at the meeting of the Zoological Society of London held on the 8th of December 1863, of which the following are the more important passages:—

“In the ‘Journal für Ornithologie’ for 1855, Herr Wiese, writing on the Ornithology of Pomerania, especially in the district of Cöslin, says that he had first heard from an old sportsman, who knew the peculiarities of all the forest-animals, that the *Totanus ochropus* nested in old Thrushes’ nests, which information, he remarks, ‘I naturally did not believe;’ but he states that some years after, in 1845, he obtained from the same man four fine eggs of a bird of this species, which for many years had been wont to nestle in an old beech tree. Still doubtful on the subject, the following spring he himself found a nest of the bird on a pine which had a fork about five-and-twenty or thirty feet high. ‘Joyfully,’ he says, ‘I climbed the tree, and found in that fork four eggs on a simple bed of old moss.’ In the spring of 1853 he again obtained four eggs of the same species; and on the 25th of May 1854 he found four others placed in the old nest of a Song-Thrush, out of which the shed buds of the beech had not so much as been removed.

“In the ‘Naumannia’ for 1856, in an account of an excursion in Western Pomerania, Dr. Altum states that *Totanus ochropus* returns annually to its old nesting-places, these being Misseltoe-Thrushes’ nests, whose remains were still to be seen, often some hundred yards distant from the nearest pool, and their height fifteen feet or more from the ground. The same journal for 1857 contains a valuable series of observations on the birds of the same district by Herr W. Hintz, in which the author says that on the 6th of May, 1855, he found three eggs of this bird on an ‘*Else*’ [quære, *Pyrus domestica*?] in an old Dove’s nest, as he thinks, though he states it might have been that of a Jay. Formerly, he proceeds to remark, he had only observed this Sandpiper to use old nests of *Turdus musicus*, excepting once, when he found some young ones, only a few days old, hard by a river-bank on a layer of pine-needles on an ‘*Else*’-stub. * * *

"I have now to read to you a portion of a letter, dated November 27, 1861, which I received from my friend Pastor Theobald, of Copenhagen. He says as follows:—

"The nidification of *Totanus ochropus* is so remarkable that I do not fear to trouble you with the history the Forester Hintz has given me. He writes:—"This year I succeeded in finding the nest of *Totanus ochropus*. On the 9th of May I took four eggs of this bird; they were found in an old nest of *Turdus musicus*, and seemed to have been incubated about three days. The very same day there were brought to me four other eggs of this bird, also found in a Thrush's nest. The 10th of May there was shown to me a nest, thirty feet high, on an old birch, the bird having chosen an old decayed nest of a Squirrel. This nest was the highest I have ever seen. Three young ones had just been hatched; in the fourth egg the bird was about to break the shell. One jumped down and concealed itself on the edge of a water-pool. The 11th of May a nest with four fresh eggs was found, but they did not come into my hands; this was in an old Pigeon's nest on a *Pinus rubra*, and full of dry pine-leaves. The 20th of May two eggs, almost burst by the young, were found in an old Thrush's nest, the two missing birds having most likely already left the nest. The 22nd of May four young ones, apparently but a few hours old, were found in the old nest of a *Lanius collurio*, in a juniper three feet high. The 24th of May four young ones were found in the hole of a *Populus tremula* thrown down by the wind. The year before, *Muscicapa luctuosa* had its nest in the trunk as it lay on the ground; this year *Totanus ochropus* had chosen the same opening. When I approached the trunk, the young ones, perhaps four-and-twenty hours old, jumped away and hid themselves in the grass among the branches. All these nests were near the water,—two on the edge of a rivulet, the others on wet morasses, the distance from the water being at most six feet." "

It will also be seen from Mr. Newton's paper, that this bird breeds in Sweden, as it doubtless does in Russia and all similar latitudes of the Old World. The eggs are generally four in number, of a very pointed form, and of an olivaceous stone-colour, thickly spotted all over with ochreous brown; they are about an inch and a half in length by an inch and an eighth in breadth.

The sexes are very similar both in size and colouring; and the young very soon acquire the adult livery, but continue for some time more numerously spotted than the adults. I am indebted to Mr. I. Edmund Harting for a very fine example of this bird, killed by him at Kingsbury, in Middlesex, on the 5th of November 1864, and for the following note which accompanied it:—"The Green Sandpiper is always the last to leave us; but I have hitherto considered it unusual to meet with it after September; this year, however, I have observed it frequently throughout October, and now as late as the early part of November. On the 22nd of December, 1863, several were observed along the feeder of our reservoir; but I thought this an exceptional case. In the spring, the Green Sandpiper comes to us about the 25th of April, and, after remaining until the middle or third week of May, leaves for six weeks, and appears again early in July. It seems strange that this species is not found breeding in England, considering that it spends so great a portion of the year therein."

I am also indebted to the Duke of Argyll for an opportunity of examining a very fine specimen shot by his Grace, in the spring of 1859, at Chenies, in Buckinghamshire, which, he observes, "does not seem a suitable locality for such a bird. The plumage is remarkably beautiful; the white of the lower parts, with the upper and under tail-coverts, is of the most spotless purity."

In further confirmation of the above statement respecting the breeding-habit of the Green Sandpiper, I may quote the following passage by Mr. Wheelwright from 'The Field' of March 22, 1862:—"In no one work on natural history, British or foreign, have I ever seen it noticed that this bird lays its eggs in an old deserted nest, every one stating that the nest of this species is either in sand, or on a bank, or among the grass by the side of a stream. Yet in Sweden, where the bird is comparatively common, so much so that I generally procure five or six sets of eggs every year, I have never by any chance found them anywhere else than in an old nest in a fir tree."

Although from the above evidence there is no reason to doubt the fact of this species laying its eggs in the old nests of other birds, squirrels' dreys, &c., and in bunches of moss on the branches of trees, it is probable that it also sometimes incubates on the ground, like the other members of its family.

The Plate represents the Green Sandpiper, of the size of life, with its four eggs in a nest which may have been a pigeon's, on a branch of the common Pine.



Journal & HC Becker del et liti

TOTANUS GLAREOLA.

Wood-Sandpiper.

Tringa glareola, Linn. Faun. Suec., p. 65.

—— *littorea*, Linn. *ibid.*, p. 66.

—— *ochropus*, var., Linn. Syst. Nat., tom. i. p. 250.

—— *grallatoris*, Mont. Orn. Dict., Append.

Totanus glareola, Temm. Man. d'Orn., 1815, p. 421.

—— *sylvestris*, Brehm, Vög. Deutschl., p. 638.

—— *palustris*, Brehm, *ibid.*, p. 639.

—— *grallatoris*, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 148.

Rhyacophilus glareola, Kaup, Natiirl. Syst., p. 140.

THE trivial name of *Wood-Sandpiper*, assigned to this species, is certainly a misnomer ; for it rather shuns the forest than otherwise. Its province is the marsh, the peat-bog, the swampy meadow, and the wet upland carrs ; its companions are the Mole-Cricket, the Copper- and Swallow-tailed Butterflies, the Bittern, and the Large Harrier. It dwells with the beautiful buck-bean (*Menyanthes trifoliata*) and the flowering rush (*Butomus umbellatus*) ; with all these it is associated. The pestiferous wastes are neither detrimental to its health nor deterrent of its reproduction. In such situations the shrill piping note of the male is uttered while he is sitting on a stone, a cushion of bog-grass, or any slight elevation ; and now and anon it may be seen circling overhead, uttering querulous cries, if its breeding-grounds are being intruded upon : such at least were the actions of those I observed on the great dreary waste of the Dovrefjeld, in Norway ; and, with certain modifications, these actions, as well as the situations in which it was seen, answer to Mr. Hoy's vivid description of the bird and its habits, as noted by him in Dutch Brabant during the months of summer. It cannot be said that the Wood-Sandpiper is very common anywhere ; yet it is sufficiently numerous in many places to admit of the naturalist satisfying his desire of seeing it in a state of nature, if he will seek for it in any of its homes at the proper season. In England it has not only been killed or observed in every county, but we have indubitable evidence of its breeding with us, Mr. Hancock, of Newcastle, having described its nest and eggs from an example procured within a few miles of the birthplace of the justly celebrated Bewick. In Ireland it is stated to be less abundant than in England—an assertion due, I think, to the circumstance of there being fewer collectors and observers of birds in that country than in our island. In other parts of Europe, from Lapland to the Mediterranean, from Holland to the Volga, it is very generally dispersed, but is nowhere abundant, yet is always to be found in situations suited to its peculiar mode of life. Out of Europe it also enjoys a wide range of habitat ; for it is found all over India, Amoorland, Japan, China, Malasia and the great islands of Java and Sumatra, to which may probably be added the few fluviatile portions of Africa. I believe it is not found in America, although I may have so stated in my former writings, the species I mistook for it being the *Totanus solitarius*.

The following interesting communication from the late Mr. Hoy to Mr. Hewitson, comprising nearly all that is known respecting the Wood-Sandpiper, I take the liberty of transcribing from the latter gentleman's valuable 'Coloured Illustrations of the Eggs of British Birds,' third edition, vol. ii. p. 330.

"This species is migratory, retiring in September and making its appearance early in April. That it breeds rather early I infer from having met with the young feathered and capable of flying a short distance on the 11th of June. I regret that I did not discover the bird till late in the season.

"A great portion of Dutch Brabant, more particularly the southern and eastern parts, is covered by large tracts of heath, the soil being of a light, sandy nature. A great number of peat-bogs and shallow pools of water are distributed over this district. Most of the small streams are skirted by swampy ground, where the bog-myrtle grows in the greatest luxuriance, with stunted bushes of alder and willow. These situations are the favourite haunt of the Sandpiper during the breeding-season. While the hen is sitting, the male flies round in wide circles, and at a considerable elevation. The female sits close, and the nest is most difficult to find.

"If you approach the spot where they have young, and especially if a dog be with you, the old birds fly round in the most anxious manner, hover over the dog within a few feet, then, suddenly darting off, mount high into the air and pounce down again with great rapidity on the intruder. If you have observed the actions and manœuvres of the Redshank during the breeding-season, you will have seen very much the habits of the Wood-Sandpiper. It is far from being numerous in the localities where I met with it ; yet many pairs are dispersed over these districts, where they have long been known to breed. Although I met with the

young in the downy state, and partially feathered, I only obtained one nest of eggs. The nest is generally placed at a short distance from the water, among stunted heath or scrubby plants of the bog-myrtle, or among coarse grass and rushes. It is placed in a hollow and is constructed of dry grass and other plants. The eggs are four in number."

The late Mr. John Wolley, writing to Mr. Hewitson from Lapland, says :—

"The Wood Sandpiper breeds in both great and small marshes, and in wet places, even on the slope of a hill, as happened this spring within a hundred yards of where I am now writing, in a place where we were often passing. Looking out of my window almost any time in the summer, I could see several of these birds standing on the tops of stakes, and perhaps hear them crying *leero, leero*, or uttering their notes of alarm. It is beautiful to see the Wood-Sandpiper playing in the air in the early spring. It rises to a great height, and then, suddenly steadying its wings and keeping them open, it glides gently upwards for a short distance, and down again on the other side of the little arch it so forms upon the former line of its course. This unexpected play in the flight has a very pretty effect, it is done so easily and gracefully."

Respecting the nest mentioned above as having been found by Mr. Hancock, Mr. Hewitson says, "On the 3rd of June 1853, he succeeded, after a long and persevering watch, in discovering the nest and eggs of this species for the first time in Britain, at Prestwick Carr, near Newcastle. 'The nest,' says Mr. Hancock, "was situated on a hillock in a marshy part of the carr, amongst heather and long grass, a situation perfectly similar to that in which the Snipe builds. It is composed of fine grass or carex, loosely put together, and measures three inches inside diameter, and two inches deep. The eggs were quite fresh. A friend shot the parent bird, which is now in my collection.'"

Mr. Yarrell describes the eggs as "pointed in shape, of a pale greenish-white, spotted and speckled, particularly over the broad end, with dark reddish-brown, and as measuring one inch and seven lines in length by one inch and half a line in breadth."

The food consists of worms, small snails, insects and their larvæ.

"The Wood-Sandpiper," says Mr. Wheelwright, in his 'Spring and Summer in Lapland,' "was very common here; and far different are the quiet unobtrusive habits of this little bird during the breeding-season to the boisterous, noisy behaviour of its congener the Green Sandpiper. Early in the summer the Wood-Sandpiper utters a pretty little song, which it trills out when seated on a tussock of grass, or when rising in the air in the vicinity of the nest. I have much oftener seen this bird seated on a tree or on a rail than the Green Sandpiper, although that bird will occasionally perch."

Mr. Stevenson informs me that, "compared with the Green Sandpiper, the present bird is a scarce migrant in Norfolk, and has become more so of late years, the few specimens procured being killed on their migratory passage in April and May and again in August and September."

Considerable difference occurs in the marking of the plumage at opposite seasons of the year. In summer the neck is much more strongly marked and streaked than in winter.

The illustrations of this and the allied species, *T. ochropus*, will show very plainly how the two differ from each other.

The Plate represents a male and a female in their summer dress, with a brood of young, all of the size of life.



ACTITIS HYPOLEUCOS.

W. A. Wood, sculp.

W. A. Wood, sculp.

ACTITIS HYPOLEUCOS.

Summer Snipe.

Tringa minor, Ray, Syn., p. 108, A. 6.

——— *hypoleucos*, Linn. Syst. Nat., tom. i. p. 250.

——— *leucoptera*, Pall.

Actitis hypoleucos, Ill. Prodr. Syst. Mamm. et Av., p. 262.

Totanus hypoleucos, Temm. Man. d'Orn., 2nd edit. tom. i. p. 657, et tom. iv. p. 419.

Tringoides hypoleucos, Gray, Cat. of Gen. and Subgen. of Birds in Brit. Mus., p. 117.

Actites hypoleucus, Blas. List of Birds of Europe, Engl. edit., p. 18.

Actitis empusa, Gould in Proc. of Zool. Soc., part xv. 1847, p. 222 ?

How much pleasure have they lost who have not seen this nimble and elegant species tripping over the pebbly bottoms of our rivulets or the greensward fringing the river-banks, or witnessed how it imparts life to the scene in the neighbourhood of the glassy Highland loch ! For myself, I have always regarded it with especial interest. Faithful as is the Swallow to the time of its coming, and cheering as are the associations connected with its visit, the arrival of this bird, in the middle of April, gives an additional zest to the anticipations of a forthcoming summer. The trivial English name of Summer Snipe, by which this species is so generally known, is singularly inappropriate ; for it is in no way allied to the bird of sporting celebrity, but belongs to the Sandpipers, a totally different family, of which it is one of the most pleasing members. In its disposition it is meek, tame, and inoffensive. What the Pied Wagtail is to our lawns and gardens, and the Lark to our fields, the Summer Snipe is to the neighbourhood of our rivers and water-courses ; there it trips before us when we leisurely walk on their green turfy banks, or take a cast for a trout among the gravel-beds of the stream ; and it is certain to be one of the party in a pic-nic on the borders of some distant lake. In such situations it breeds ; and here, if the proximity of its nest be invaded, it resorts to the usual artifice of passing backwards and forwards across the stream for the purpose of enticing us away from the cherished spot. Now is the time to observe its slow, laboured, and peculiar flight, performed so close to the water that the tips of the wings appear to touch the surface ; now also is the time to observe its actions on the ground, the upfirting of its tail, the elegance with which it runs and leaps among and over the large pebbles, and the general gracefulness of its many movements. The Summer Snipe is a river and lacustrine species, seldom visiting the sea-shore, and that only prior to its departure to a warmer climate in September, when both the old birds and those which have been bred in the British Islands quit our shores for Portugal and Spain, and gradually pass onward to Africa.

There is no part of the British Islands, not even the outer Hebrides, in which this bird is not a denizen, or to which it is not a passing visitor, and so extensive is its range over the Old World that I believe it to be universally distributed in every suitable locality ; the only exception to this wide-spread distribution being that it is not found in New Zealand and some of the Polynesian Islands—at least, I do not recollect to have seen examples from thence. It is certainly an inhabitant of Lapland and all the intervening countries to the Cape of Good Hope, from Russia to Aden in Arabia, from Siberia to Cape Comorin in India, and from Kamtschatka to China ; Japan, Malacca, Sumatra, Borneo, Java, New Guinea, Timor, and Australia are also visited by this species. It is true that I have given the name of *Actitis empusa* to the Australian bird ; but I now doubt its being distinct. How singular it is that a species so universally distributed over the Old World should not be found in the New ! yet such, I believe, is the case ; for I observe that Dr. Baird does not include it in his recently published ‘List of the Birds of North America,’ its place in that country being supplied by a species of the same form, so intimately allied to our bird in size and structure that its habits and economy must be similar in every respect ; but that it is specifically distinct there is no doubt : the spotting of its breast has procured for it the appellation of *Actitis macularius*.

“The Common Sandpiper,” says Mr. Selby, “is a bird of most lively habits, being continually in motion ; for, whether running along the shore or perched upon a stone, its tail is ever moving up and down, and it has also a habit of nodding the head by suddenly stretching out and contracting the neck. Its flight is graceful, and is performed by a rapid motion of the pinions, succeeded by an interval of rest, the wings at the same time being considerably bent and forming an angle with the body ; and in this manner it skims with rapidity over the surface of the water, not always flying in a straight line, but making occasional sweeps, uttering at the same time its shrill and well-known whistle. It breeds upon the banks of rivers and lakes, taking care to make its nest beyond the reach of the usual floods. The nest is generally placed under a

projecting tuft of grass or rush, where it scrapes rather a deep hole in the ground, and lines it with dried grass, leaves, and other materials. The eggs are four in number, of a cream-yellow colour, with numerous spots of dark brown upon the surface, and others of a lighter hue appearing as if beneath the surface of the shell." "They are pyriform, and placed with the narrow ends together, so as to occupy less space;" and "they are so disproportionately large," says Macgillivray, "that one is apt to marvel how so small a bird could have laid them, their average length being an inch and four-twelfths, and their greatest breadth an inch." "If disturbed during the period of incubation," continues Mr. Selby, "the female quits the nest as quietly as possible, and usually flies to a distance, making no outcry. As soon, however, as the young are hatched, her manners completely alter; she becomes greatly agitated on the apprehension of danger, and every stratagem is resorted to, such as feigning lameness and inability of flight, to divert the attention of the intruder from the unfledged brood. As soon as hatched, the young quit the nest, and in the course of three weeks are nearly able to fly. If discovered and an attempt be made to catch them before they are fully fledged, they boldly take to the water and dive to a considerable distance."

"Of all our summer birds of passage," says Mr. Thompson, "the Sandpiper, so attractive from its beautifully bronzed plumage, lively motions, loud piping note, and graceful curving flight, is the most widely dispersed, and the least choice as to locality, a mere sufficiency of water in any form being apparently the only essential to its presence. In the petty tarns situated amid the sublime scenery of our lofty mountains, as at Lough Salt in Donegal, on the low and extensive shores of our three greatest lakes—Lough Neagh, Erne, and Corrib, around the richly wooded and rocky shores of Killarney, as well as about lakes of every intermediate size and physical character, I have remarked this species. It is also found at the lofty source of our springs and brooks, in the beds of rocky torrents and gently flowing streams, and along the banks of the largest rivers, until, in their gathered might, they move majestically to mingle with the ocean. Here, again, on shores of every description—the soft oozy beach, the sand, the gravel, about the Norway-like *fjord* of the Killeries in Connemara, and the iron-bound coast of Antrim, including the Giant's Causeway itself—its piping note proclaims its presence."

So far as I am aware, the Summer Snipe does not breed on the banks of the Thames or any of its tributaries; but we know that it constructs its slight nest and rears its young in all suitable situations in Derbyshire, Lancashire, Westmoreland, Cumberland, Scotland, and Ireland.

The young are very peculiar in their appearance, and in their markings very much resemble youthful Avocets and long-legged Plovers. These little creatures, even before the appearance of their tail-feathers, run over the shingle with great agility, and readily screen themselves from observation by creeping under a stone, into a crevice in the earth, or among the herbage on the river-side.

The sexes are alike in plumage, and may be thus described:—

The head, all the upper surface, wing-coverts, and tertiaries greenish olive with a bronzy lustre; the feathers of the head and back with a streak of dark brown down the centre, and the wing-coverts crossed by numerous irregular bars of the same hue; primaries brown, glossed with bronze, with a narrow edging of white at the tip, and a broader mark of white along the basal portion of the inner web; secondaries white at the base, bronzy olive for the remainder of their length, with a narrow edging of white at the tip; above the eye a stripe of white; sides of the neck and breast pale olive; throat, centre of the neck, and all the under surface white; tail bronzy olive, the central feathers with a crescent of black at the tip, the next two or three on each side lighter, spotted with dark brown on each web, crossed with black near the end, and tipped with white; the outer feathers on each side the same, except that the external web is white instead of bronzy olive; the remainder of the bill pale flesh-colour, tip of the upper and the greater part of the under mandible dark brown; irides blackish brown; legs and feet pale greenish white.

The young in the first autumn are similar in colour, but have the whole of the upper surface of the body, under mandible, wings, and tail conspicuously barred with brown.

In the downy state, or when about two days old, a conspicuous line of black runs from the base of the bill through the eye to the occiput, and a similar dark line runs down the centre of the back; the upper surface is mottled with brown and grey; the under surface pure white; the legs fleshy white.

The Plate represents a male, a female, a nest of young ones, and an egg, all of the size of nature.



ACTTIS MACULARIUS.

Illustr. by W. Hart del. et lith.

Walter Jones

ACTITIS MACULARIUS.

Spotted Sandpiper.

Tringa macularia, Linn. Syst. Nat., tom. i. p. 249.

Totanus macularius, Temm. Man. d'Orn. (1815), p. 422.

Actitis macularia, Boie, Isis, 1826, p. 979.

Tringoides macularia, G. R. Gray, Gen. of Birds, vol. iii. p. 574.

SOME ornithologists believe that the Spotted Sandpiper is a myth, so far as regards the avifauna of Great Britain, notwithstanding the most positive assurances of its capture are given in the works of Bewick, Yarrell, and others. However this may be, as regards England, there seems to be no doubt of its occurrence in Scotland; for Mr. Gray's recently published valuable work on the birds of the western part of that country states that authentic instances, the only ones it is true, of this rare bird being found in Scotland were communicated to him by his obliging friend and correspondent, Mr. Angus, of Aberdeen, who states that a male and female were left at the Aberdeen Museum in August 1867, in the absence of Mr. Mitchell, who up to the present moment does not know by whom the birds were presented or where they were shot. Both were in the flesh and had not been long dead; they were prettily marked and somewhat dissimilar in size, the male being the largest. The female is now in Mr. Angus's cabinet; the other has been kindly presented by Mr. Mitchell to Mr. Gray, and is now in his collection. With such evidence as this, published as late as 1871, and presuming that at least some of the fifteen occurrences recorded by Mr. Harting in his 'Handbook of British Birds' are authentic, we can scarcely assert that it has never been seen in the British Islands, especially as we know that the bird, like the common Summer Snipe, is a great wanderer both over some parts of Europe and the extensive continent of America. Nilsson, in his 'Fauna of Scandinavia,' says it is often seen in the north of Europe, and that specimens have been killed in Sweden, on the islands in the Baltic, and in Gothland. Temminck also refers to it as having been killed in Germany in the neighbourhood of the Rhine; and Meyer and Wolf and Brehm also include it among the birds of that country—a fact which induces me to believe that the bird does now and then stray over to our island. As regards America I have reason to believe it is more constant in Texas and the country lying northward from there to Newfoundland than in any other part of that continent. It is also, we know, either an inhabitant or a migrant over the West Indies and many parts of South America, Mr. Clarence Bartlett having brought from Surinam many very beautiful specimens obtained during his short visit to that country.

The works of American ornithologists teem with information respecting the Spotted Sandpiper, the more important of which I will take the liberty of extracting. In that of Audubon it is stated:—"The Spotted Sandpiper has a wonderfully extensive range; for I have met with it, not only in most parts of the United States, but also on the shores of Labrador, where, on the 17th of June, 1833, I found it breeding. On the 29th of July the young were fully fledged and scampering over the rocks about us, amid the putrid and drying cod fish. In that country it breeds later by three months than in Texas; for on the head waters of Buffalo Bayou, about sixty miles from the margin of the Mexican Gulf, I saw broods already well grown on the 5th of May, 1837. On the same day of the same month in 1832, a similar occurrence happened on an island near Indian Key, on the south-east coast of Florida. In Newfoundland, on the other hand, the young were just fully fledged on the 11th of August. It appears strange that none were observed by Dr. Richardson on the shores of Hudson's Bay, or in the interior of that country. They are quite abundant along the margins of the Mississippi, the Ohio, and their tributaries. On the Island of Jestico, in the Gulf of St. Lawrence, about twenty pairs had nests and eggs on the 11th of June; and the air was filled with the pleasing sound of their voices while we remained there. The nests were placed among the tall slender grass that covered the southern part of the island. They were more bulky and more neatly constructed than any that I have examined southward of the Gulf of St. Lawrence; and yet they were not to be compared with those found in Labrador, where in every instance they were concealed under ledges of rocks extending for several feet over them; so that I probably should not have observed them, had not the birds flown off as I was passing. These nests were made of dry moss, raised to the height of from six to nine inches and well finished within with slender grasses and feathers of the Eider Duck. As usual, however, the eggs were always four when the bird was sitting. They measure an inch and a quarter in length by an inch at their thickest part; so that they have a shortish and bulky appearance, though they run almost to a point. They are smooth and handsomely marked with blotches of deep brown, and others of a

lighter tint, on a greyish yellow ground, the spots being larger and closer towards the rounded end. Both sexes incubate, and remain with their brood until the time of their departure."

The following passage is from the pen of Mr. Thomas Nuttall, on the manners of the species as observed by him in the neighbourhood of Boston:—"The Peet Weet is one of the most familiar and common of all the New-England marsh-birds, arriving along our river-shores and low meadows about the beginning of May, from their mild or tropical winter quarters in Mexico. As soon as it arrives on the coast, small roving flocks are seen, at various times of the day, coursing rapidly along the borders of our tide-water streams, flying swiftly and rather low in circular sweeps along the meanders of the rock or river, and occasionally crossing from side to side, in rather a sportive and cheerful mien, than as the needy foragers they appear at the close of the autumn."

Mr. Stevenson omits the *Actitis macularius* from his 'List of the Birds of Norfolk,' questions the evidence upon which a single example was recorded by Messrs. Gurney and Fisher as having been killed at Runton, near Cromer, on the 26th of September, 1839, and further states "I am the more desirous of giving publicity to this fact since the claim of the Spotted Sandpiper to be included even in the list of British Birds rested solely for some years upon this particular specimen as recorded by Yarrell."

It has sometimes been a question with me whether the spottings on the breast of this bird are not purely seasonal; for I have seen many individuals apparently adult, especially from Venezuela, from which they have been absent: one thing is certain, the young during the first autumn have plain breasts, at which stage of their existence they closely assimilate to *Actitis hypoleucos*.

The Plate represents an adult male and female, and young in the plumage of the first autumn, all of the natural size.



STREPSILAS INTERPRES.

STREPSILAS INTERPRES.

Turnstone.

Tringa interpres, Linn. Faun. Suec., p. 63.

——— *morinella*, Linn. Syst. Nat., tom. i. p. 249.

Strepsilas interpres, Ill. Prod. Syst. Mamm. et Av., p. 263.

——— *collaris*, Temm. Man. d'Orn., 1st edit. p. 349.

Morinella collaris, Meyer, Vög. Liv- und Esthl., p. 210.

Charadrius cinclus, Pall. Zoog. Ross.-Asiat., tom. ii. p. 148.

Cinclus interpres, G. R. Gray, Gen. of Birds, vol. iii. p. 549, *Cinclus*, sp. 1.

——— *morinellus*, G. R. Gray, List of Gen. of Birds, 1841, p. 87.

Strepsilas borealis, Brehm, Vög. Deutschl., p. 559.

——— *littoralis*, Brehm, ib., p. 560.

THE Turnstone is found not only in the British Islands but in almost every part of the globe,—in the Old World from Norway to the Cape of Good Hope, from China to Capes Leuwin and Howe in Australia, and even still further south (for I found it in all the parts of Tasmania I visited); in the New World from Hudson's Bay to Florida and Mexico. Mr. Darwin obtained specimens in the Galapagos archipelago, on the coast of Peru, and, according to Yarrell, in the Straits of Magellan; it is also found in the Moluccas and, doubtless, in all the other islands of the New Guinea group in the Pacific, as it certainly is in Madeira and Teneriffe in the Atlantic. Although so great a wanderer, it is nowhere very abundant; and wherever it is met with, it is singly, in pairs, or in small companies of not more than six, eight, or a dozen. Its chief breeding-quarters are doubtless the high northern regions; but some deposit their eggs, as we know, on the western coast of Norway.

The situations to which the Turnstone is more especially partial are low islands, the strands of the sea-shore, and the borders of inland waters contiguous to the ocean. In its disposition it is more tame than wary; and its actions and economy are as curious as its plumage is chaste and beautiful. Those who may wish to see a living example have only to visit the Menagerie of the Zoological Society in the Regent's Park, where they will find a domesticated individual living in perfect harmony with other birds, and in as beautiful a condition as if in a state of nature.

The usual food of the Turnstone consists of marine insects and their larvæ, worms, and crustaceans, for procuring which its peculiarly constructed bill is admirably adapted. On the beach the progress of a small troop of Turnstones may be readily traced by the stones, shells, and clods of earth they have turned over in their course. At the base of the upper mandible is a small fleshy sheath or fold of skin, the purpose of which is unknown. It has often recalled to my recollection the *Chionis*, to which bird the Turnstone seems to me to offer a slight alliance. As this fold shrivels up, becomes hard, and is not apparent after death, it must be looked for in the living bird; it is, I trust, rendered sufficiently clear in the accompanying illustration. I am uncertain whether the chestnut-red plumage in which I have figured this interesting bird, is or is not a livery which once assumed is never again thrown off; in winter we mostly meet with the bird in the dark costume represented in the reduced figure on the opposite Plate; these, however, may be young birds of the year; it was in this state that the individuals I observed in Tasmania were mostly seen.

Mr. Stevenson, in his notes on the Birds of Norfolk, states that the Turnstone visits that county regularly, though not in large numbers, arriving in August, remaining during the winter, and leaving again in spring for the breeding-grounds. He has met with small flocks in the *scaups* at Hunstanton as late as the 13th or 14th of June, and has no doubt that some few remain all the year round, but as yet has no evidence of their breeding in that neighbourhood. Mr. Rodd says it is common on the flat beaches and the Marazion sands in Cornwall during the spring and autumn migrations; and Mr. J. Edmund Harting tells me that, after spending a week in looking for the Turnstone along the Northumberland coast and on the Farne Islands, he, on the 15th of May 1863, fell in with a small flock of eight near Beadnel, and succeeded in killing two. This gentleman is of opinion that the bird still breeds on the Farne Islands; but this requires confirmation, although he states that, during a visit to North Sunderland in 1863, he purchased from a fisherman some eggs taken on the islands the previous year, among which he discovered one he believed to be a Turnstone's.

Mr. Hewitson's account of the nesting of this bird, as seen by him in Norway, is so interesting that I cannot refrain from transcribing it:—

“I have never heard of an instance of the Turnstone breeding upon the British islands, although led to expect it from having at various times seen several of the birds upon the Northumberland coast and also

upon the Shetland Islands during the months of summer. It was therefore with peculiar pleasure that we discovered its retreat upon the coast of Norway during a bird-nesting excursion to that country. We had visited numerous islands with little encouragement, and were about to land upon a flat rock, bare except where here and there grew tufts of grass or stunted juniper clinging to its surface, when our attention was attracted by the singular cry of a Turnstone, which, in its eager watch, had seen our approach and had perched itself upon an eminence of the rock, assuring us, by its querulous oft-repeated note and anxious motions, that its nest was there. We remained in the boat a short time until we had watched it behind a tuft of grass, near which, after a minute search, we succeeded in finding the nest. It was placed against the ledge of the rock, consisted of nothing more than the dropping leaves of the juniper bush, under a creeping branch of which the eggs, four in number, were snugly concealed and admirably sheltered from the many storms by which these bleak and exposed rocks are visited, allowing just sufficient room for the bird to cover them. We afterwards found several more nests with little difficulty, although requiring a very close search. In sailing amongst the many islands with which this coast is everywhere studded, we had no difficulty in ascertaining those on which we should prove successful, and were frequently led to the spot from a distance by the extreme anxiety and pugnacity evinced by this bird in its attacks upon the larger sea-fowl, especially Richardson's Skua, the egg-devouring enemy of other sea-birds. The several nests we examined, with the exception of two, were placed in similar situations to the one described; one of these was under a slanting stone, the other, without any covering whatever, upon the bare rock. They all contained four eggs, some of them more pointed than others, some much like eggs of the common Snipe, but all having a beautiful tint of purple or crimson, seen in few other eggs."

The egg, as figured on the 79th plate of Mr. Hewitson's 'Coloured Illustrations of the Eggs of British Birds,' accompanying the above account, has a ground-colour of pale-yellowish olive, blotched all over with irregular patches of dark brown and pale purple, and is one inch and a half in length by one inch and one-eighth in breadth.

Dr. Saxby, in his 'Ornithological Notes from Shetland,' states that in December "Turnstones frequent all parts of the coasts of these islands, associating with Ringed Plovers and Purple Sandpipers, but usually in small numbers, more than half a dozen being seldom seen together. When in company with other species they are more easily approached than at other times; but after having been fired at they become very suspicious, and for weeks afterwards it is difficult to get within shot upon open ground. On being disturbed they nearly always utter their loud twittering notes, and invariably fly seawards, seldom alighting until they have several times passed and repassed the selected spot. When wounded they swim with great ease, and will even take to the water voluntarily when closely pursued; but I have never seen one attempt to dive. Although they mostly frequent rocky shores, the sands, during stormy weather or immediately afterwards, appear to be very attractive." With regard to the habit which has obtained the bird its trivial name, Dr. Saxby remarks, "I have watched these birds for hours at a time, and besides witnessing the act repeatedly, have afterwards visited the ground where the displacement of stones and shells, and even the completely reversed position of some have been quite sufficient to prove the existence of the habit. Such traces are of course most readily observed upon a sandy beach, where the stones are few and scattered; and upon masses of drifted weed the wet appearance of all those portions which have lately been disturbed are very evident; indeed it is chiefly among seaweed that that peculiar method of searching for food is employed." "I was delighted," says Audubon, "to see the ingenuity with which they turned over the oyster-shells, clods of mud, and other small bodies left exposed by the retiring tide. Whenever the body was not too large, the bird bent its legs to half their length, placed its bill beneath it, and, with a sudden quick jerk of the head, pushed it off, when it quickly picked up the food that was thus exposed to view, and walked deliberately to the next shell to perform the same operation. In several instances, when the clusters of oyster-shells or clods of mud were too heavy to be removed in the ordinary way, they would not only use the bill and head, but also the breast, pushing the object with all their strength, and reminding me of the labour I have undergone in turning over a large turtle. Among the seaweeds cast on the shore they used the bill only, tossing the garbage from side to side with the utmost dexterity."

The figures in the accompanying Plate represent the two sexes, of the natural size.



MACHETTES PUGNAX.

J. Gould & H. C. Richter, del et lith.

Müller, Imp.

MACHETES PUGNAX.

Ruff.

Tringa pugnax, Linn. Faun. Suec., p. 62.

—— *littorea*, Linn. Syst. Nat., tom. i. p. 251.

—— *rufescens*, Bechst. Naturg. Deutschl., tom. iv. p. 332.

—— *equestris* et *grenovicensis*, Lath. Ind. Orn., tom. ii. pp. 730, 731.

—— *variegata*, Brünn, Orn. Bor., p. 54.

Totanus pugnax, Nilss.

Machetes pugnax, Cuv. Regn. Anim., tom. i. p. 490.

—— *planiceps*, Brehm, Vög. Deutschl., p. 671.

—— *alticeps*, Brehm, ib., p. 670, tab. 34. fig. 4.

Pavoncella pugnax, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 29.

Philomachus pugnax, G. R. Gray, List of Gen. of Birds, 1841, p. 89.

ON taking up my pen to say a few words respecting the Ruff, I am fully aware of the high interest which attaches to the subject; for of all the Sandpipers this bird is the most extraordinary, and possesses characters unlike any other. In nearly all the species of the great family of *Tringineæ* the females are the largest of the two sexes; but in the Ruff the females or Reeves are about half the size of the males. During spring, or the breeding-season, too, the male is adorned with the most profuse ornamentation, in the shape of neck-plumes and ear-tufts, that can be conceived; for not even among the *Gallinæ* is this feature more strongly developed; at the same time a multitude of fleshy tubercles appear on the face, which, as well as the ruff and ear-tufts, disappear at the close of the breeding-season. To this must be added that, while most of the Sandpipers are excellent for the table, the Ruff and his little partner the Reeve are especially so. For all time since birds were eaten, and delicacies sought after for the delectation of the epicure, these birds have been highly esteemed, and have ever formed part of the great feasts given by kings and other potentates, and are still in high favour; for even at the moment I am penning these lines (May 1871) London teems with examples for the enjoyment of those who can afford their purchase. Those which now appear in our markets have been snared or otherwise obtained in Holland. Formerly, even so late as the commencement of the present century, there was no need for this Dutch supply; for sufficient for the demand could then be obtained in Norfolk and Lincolnshire. Now a solitary pair, or at most a score, are all that those counties are able to send us in a month. Ruffs and Reeves, in fact, like many other marsh-loving birds, find their place there no more, the draining and clearing of the fens having deprived such localities of the conditions fitted for their existence; the sites which afforded a natural home to the Bittern, the Spoonbill, the Ruff and Reeve, and many other birds are now covered with waving corn, and afford an abundance of cereal, instead of feathered, food for man. In many parts of Holland, however, and particularly in the northern portion of Friesland, the Ruff and other marsh-birds still are found in their usual abundance, the land therein not being capable of improvement. There are many other parts of the Continent in which similar physical conditions occur, and where the Ruff is also found: these are some portions of France, Belgium, the great swamps at the mouth of the Danube, Turkey, and Russia. To all such places the Ruff migrates in the month of April, and, taking his stand upon some small hillock, like a knight of old, challenges his neighbour to mortal combat, until the females arrive and select the strongest, the vanquished getting a mate or not as the case may be. These matters settled, the nesting soon commences, and the marsh is speedily studded over with nests, or rather with depressions in the ground, where the female hatches her four beautiful eggs and rears her young, which, like most youthful Sandpipers, are at first covered with a variegated down, and are but feeble creatures. After some little time, however, they attain strength, and, plumage taking the place of their first downy covering, they are able to exercise their pinions, and fly from the place of their birth to the shores of the sea and other suitable localities, not only in every part of Europe and Africa, but in India and China. I do not mean that the Ruffs found in the two last-mentioned countries are birds that have been bred in Holland, but that probably similar colonies also occur in Russia and Siberia; so numerous is this remarkable bird. Besides the extraordinary development of the frill in the Ruff, there is another circumstance connected with it which renders it still more astonishing—namely, that it is all but impossible to find two males in which it is similarly coloured; but whatever may be the colouring first assumed, it is retained through each subsequent change. Thus, if the prevailing colour at the first assumption be red, it will be of that hue at the recurrence of each successive breeding-season; if black, black it will

be in like manner, and so on. Page after page has been written respecting the Ruff; all, however, conveys but a feeble idea of the interest which attaches to this singular bird.

“In its polygamous nature,” says Mr. Selby, “this species differs from the rest of its congeners, such peculiarities producing the difference of habits that so remarkably distinguish it during the season of reproduction. Shortly after the arrival of the males in this country, which takes place during the month of April, and as soon as the feathers of the throat and the auricular tufts become almost fully developed, they begin to *hill*, as it is termed,—that is, to assemble in companies on some dry hillock or rising spot of ground amidst the marshes, each individual selecting a particular stand or *walk* at a small distance from his neighbour, any attempt to encroach upon which is instantly resented, and the possession of it most obstinately defended. Here each bird keeps moving in his respective circle, awaiting the approach of any one of the other sex, whose appearance immediately throws the whole assemblage into excitement, and acts as a signal for a general fight, her favours being the prize of victory. Each morning, soon after daybreak, when the males return to their hill from the surrounding marshes, over which they disperse and feed during the night, the same kind of warfare takes place; and the theatre of these battles and amours soon becomes bare of grass, from the constant traversing of the combatants. This scene continues during the month of May and great part of June, until their mutual fervour begins to abate, indicated in the male bird by the shedding of the ruff and auricular plumes and the commencement of a general moult. The papillæ or fleshy tubercles that cover the face and the region of the eyes during the height of the season disappear; and in a short time they become clothed in a plumage so unlike that of the early summer as to be with difficulty recognized. With this difference of plumage a change is also wrought in their disposition; for they no longer exhibit the extreme pugnacity that distinguished them during the time of *hilling*. In fighting, the actions of the Ruff are not unlike those of the Common Cock: the head is lowered and held in a horizontal direction; and the feathers of the neck which form the shield are distended outwards, so as to cover and protect the tender parts of the body; the auricular feathers are erected, and the tail partly expanded. In this attitude the combatants stand opposed to each other, attempting to lay hold with their bills; and if this is effected, by a leap the wings are then brought into offensive action. As might be expected from the nature of their weapons, their contests are not often attended with fatal consequences. The females, generally called Reeves, possess no elongated feathers; and their plumage of summer varies but little from that of autumn and winter. They live in the marshes, and resort to the hills of the males at stated periods. The place selected for nidification is commonly of the most swampy nature, abounding in tufts of tall grass and other marsh-plants, and upon these the nest is formed, being only a slight depression lined with coarse grass and herbage. The eggs, four in number, are in colour and markings very like those of the Common Snipe, but rather larger. In the wild state, the food of the Ruff consists of worms, aquatic insects, and their larvæ; but in confinement they soon eat bread and milk, boiled wheat, and other farinaceous diet with avidity, upon which they soon become very fat.”

Macgillivray states that on the east coast of Scotland Ruffs usually appear about the middle of September, and depart in about a fortnight. The bird is not known to breed in any part of Scotland or its islands; and it is therefore more than probable that the small flocks which are not unfrequently met with on the shores of the Frith of Forth, the east coast of Aberdeenshire, &c. have winged their way from Scandinavia, on some parts of which the bird is more common during the summer. According to Thompson, the Ruff “visits Ireland on its autumnal migration southward not unfrequently, but very rarely appears on its vernal movement northward.”

In Iceland it is so rare that only a single instance has been recorded of its occurrence there; and that was as far back as 1820.

Loche states that it visits Algeria during its migrations; and we may infer that it spreads itself in all suitable situations in Africa.

Dr. Jerdon says that “the Ruff and Reeve are found in large numbers in India during the cold season, sometimes assembling in vast flocks. They are frequently found in grass-land and damp meadows at some distance from water, at other times on the edges of tanks. They feed greedily on rice, and are most excellent eating.”

Mr. Swinhoe states that it visits the interior of China in winter, from Kamtschatka and Siberia, where it is common.

Like Mr. Selby, I must refer my readers, for a full and interesting account of the Ruff, the modes of taking them, &c., to the Supplement to Montagu’s ‘Ornithological Dictionary,’ art. “Ruff,” and also to the Rev. Richard Lubbock’s ‘Observations on the Fauna of Norfolk.’

The front figures represent a Ruff and a Reeve, of the natural size.



MACCHIETES PUGNAX.

Ruff and Reeve in the plumage of the first autumn



ACTITURUS BARTRAMIUS.

Bartram's Sandpiper.

Tringa Bartramia, Wils. Amer. Orn., vol. vii. p. 63, pl. 59. fig. 2.

——— *longicauda*, Bechst. Vög., Nacht., p. 453.

Totanus Bartramius, Bonap. Cat. Birds of United States, p. 262.

Actiturus Bartramius, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 51.

Bartramia laticauda, Less. Traité d'Orn., p. 553.

Tringoides Bartramius, Gray & Mitch. Gen. of Birds, vol. iii. p. 574, *Tringoides*, sp. 4.

Actitis Bartramia, Naum. Naturg. Deutschl., pl. 196.

Euliga Bartramia, Nutt. Man. Orn. of Unit. States and Canada, vol. ii. p. 169.

Totanus variegatus, Vieill. Gal. des Ois., tom. ii. p. 197, pl. cccxxxix.

WERE I to enumerate as correct all the statements recorded of the occurrence of Bartram's Sandpiper in England, I should be sadly deceiving my readers; for in most instances the birds so called have been male Ruffs in the plumage of the first autumn, just as Reeves of the same age have been mistaken for Pectoral Sandpipers; but it has undoubtedly occurred here in at least three instances; and there are two specimens in the Museum at Leyden labelled by the late celebrated Temminck as having been killed, one in Holland, the other in Germany; I have also received a single one from Australia, as recorded in the supplementary volume of my work on the birds of that country. These instances tend to prove that the bird is a great wanderer, its native home being America, over the northern portion of which it is widely dispersed, and where it breeds in abundance, migrating at the autumn season as far south as Mexico and Guatemala. It is by no means a true Sandpiper; for it evinces little partiality for the sea-shores or the margins of rivers, but betakes itself to the grassy meadows and uplands of the interior of the country. The peculiar form of its head and the large size of its eyes suggest to the ornithologist that it is somewhat related to the Stone-Plover or Thick-knee (*Edicnemus crepitans*), to whose habits its own also offer a considerable resemblance; moreover the sexes are alike in colouring.

The first example taken in England was recorded in the 'Zoologist' for 1851, by the late Hugh Reid, of Doncaster, without the assignment of any name; but Mr. A. G. More and Mr. J. H. Gurney subsequently determined it to be a veritable *Actiturus Bartramius*. It was killed near Warwick, and was sent to Mr. Reid for preservation on the 31st of October by R. Barnard, Esq., but is now, I believe, in the collection of Lord Willoughby de Broke, at Compton Verney, near Stratford-on-Avon. The second specimen was recorded by the Rev. Frederick Tearle, of Trinity Hall, Cambridge, in the 'Illustrated London News,' with an accompanying representation of the bird, on the 20th of January, 1855, and formed the subject of the article "Bartram's Sandpiper," in the second supplement to Yarrell's 'British Birds.' Mr. J. H. Gurney, Jun., informs me that this bird is now in his father's collection, and has called my attention to the following account of its capture, from the pen of the Rev. F. Tearle, in the fifth volume of the 'Naturalist':—

"The specimen was first seen by some labourers engaged in threshing, near a farm-yard about ten miles from Cambridge. Its peculiar and plaintive whistling cry first attracted their attention; and on watching it, they observed that it frequently alighted and ran along the ground in an apparently weak and exhausted state. For this reason one of the men fancied he could catch it with his hat, and began to chase it across the field. But as soon as he approached tolerably near, the bird rose and flew round in large circles above him, uttering at intervals its wailing note. He soon relinquished the pursuit; but a gamekeeper's boy, who lived in a cottage close by, took out his father's gun, and shot it. It allowed him to approach several times within gunshot before it rose. Standing erect, it seemed to watch and wait for him, then ran a short distance and stood as before, after the manner of a bird that wishes to decoy an intruder from its nest. It eventually rose, and was brought down. I am unable to state its sex."

The third and last killed in England was seen hanging up in a gamedealer's at Falmouth, Nov. 13th, 1865, by Mr. G. F. Matthew, and afterwards by Dr. Bullmore, who bought, and recorded it in the 'Zoologist' for 1866, where he says:—"From inquiries instituted by me I find this bird was flushed by a farmer's son near Mullion, from a piece of pasture-turnips where he had just previously risen some six or eight Snipes. It rose singly, uttering a short shrill scream, flew over the hedge, and dropped into a ditch by the side of a contiguous road. On the approach of its pursuer it again rose, and alighted in the middle of a hayfield, where it was shot while busily occupied in running about on the ground."

The best accounts of this species are contained in the works of Wilson and Audubon, the latter of whom states that it is the most truly terrestrial of all its tribe with which he was acquainted; "for although not unfrequently met with in the vicinity of shallow pools, the muddy margins of the shores of the sea, and fresh-water lakes and streams, it never ventures to wade into them. The dry upland plains of Opellousas and Attacapas in Louisiana are amply tenanted with these birds in early spring and in autumn. They arrive there in the beginning of March from the vast prairies of Texas and Mexico (where they spend the winter), and return about the first of August. They are equally abundant on all the western prairies on both sides of the Missouri, where, however, they arrive about a month later than in Louisiana, whence they disperse over the United States, reaching the middle districts early in May, and the State of Maine by the middle of that month, at about which period they are also seen in Indiana, Kentucky, and Ohio. That some proceed as far north as the plains adjoining the Saskatchewan river is certain; for Dr. Richardson there met with examples in the month of May. In the neighbourhood of New Orleans (where the bird is known by the name of "Papabote") it usually arrives in great bands in spring, and is met with on the open plains and large grassy savannas, and usually remains about a fortnight. On their return southward in the beginning of August (when they tarry in Louisiana until the 1st of October), they are fat and juicy. In spring, when they are poor and thin, they are usually much less shy than in autumn, at which period they are exceedingly wary and difficult of approach. Like all experienced travellers, Bartram's Sandpiper appears to accommodate itself to circumstances as regards food; for in Louisiana it feeds on Cantharides and other Coleopterous insects; in Massachusetts on grasshoppers, on which it soon grows very fat; in the Carolinas on crickets and other insects, as well as the seeds of the crabgrass (*Digitaria sanguinalis*); and in the barrens of Kentucky it often picks the strawberries. Those which feed on Cantharides require to be very carefully cleaned; otherwise persons who eat them are liable to suffer severely; but when their flesh is imbued with the flavour of ripe strawberries it is truly delicious.

"They not unfrequently alight on fences, trees, and out-houses, but, whether in such situations or on the ground, seldom settle without raising both wings upright to their full extent and uttering their loud and prolonged, but pleasing notes. They run with great activity, stop suddenly and vibrate the body once or twice. When earnestly followed they lower their heads and run off rapidly, or squat, according to the urgency of the occasion. At other times they partially extend their wings, run a few steps, as if about to fly, and then cunningly move off sideways and conceal themselves among the grass or behind a clod. You are not unfrequently rendered aware of your being within sight of them by unexpectedly hearing their plaintive and mellow notes; yet, on searching for the bird, you nowhere see it, for the cunning creature has slipped away and hid itself. When wounded in the wing, they run to a great distance and are rarely found.

"I have found the eggs of this bird laid on the bare earth, scooped out to the depth of about an inch and a half, near the roots of a tuft of rank grass in the middle of a meadow; and seen some nests formed of loosely arranged grasses, placed almost beneath low bushes growing on poor elevated ridges furnished with a scanty vegetation. The eggs measure an inch and five eighths by an inch and a quarter; they are broadly rounded at one end and rather pointed at the other, their surface smooth; the ground-colour dull greyish yellow, with numerous spots of light purple and reddish brown."

"In New Orleans," says Mr. Dresser, in 'The Ibis' for 1866, "this bird is much sought after by epicures; and I quite agree with them in so doing, for I never tasted a better one. Indeed we ate them three times a day whenever we could procure them, and would touch nothing else. Our mode of cooking them was to pluck and draw, then split them up the back, and fry them in their own fat, adding a little pepper and salt; and in such good condition were they, that this melted fat would almost cover them in the pan, and the process nearly became one of boiling instead of frying. In some cases I have seen them so fat that they actually burst on falling to the ground."

I am indebted to J. H. Gurney, Esq. for the following interesting note on the habits of this bird as observed by Mr. R. P. Nicholls, of Kingsbridge, Devon, "an intelligent and trustworthy observer of nature."

"In the neighbourhood of the town of Trempealeau, on the river Mississippi, in the western part of Wisconsin, United States, where I resided for several years, these birds were very common from the beginning of May to July, when they seemed to retire, most probably southward. They are to be seen running and flying in pairs, and breeding on the extensive prairie-lands, always on the borders of the oak openings, and not near water; they seem to be very tame, and will permit one to approach, especially when breaking ground, so near as to be able to knock them down with the ox-whip, which to do is considered cowardly by the people. Their mode of flight is very peculiar; they rise from the ground and soar, not unlike the Kestrel, directly over your head, as if watching your movements; and if a tree is near, they apparently float to, and perch on, the uppermost bough, at the same time raising their wings over the back so as nearly to touch at their points, and uttering a shrill short whistle gradually diminishing in sound until it is scarcely perceptible. Where the trees are large they also frequently settle on their main branches. I have often sat down on the grass, remaining perfectly quiet, when they would pick about in pairs, uttering a guttural note, and approach within six or seven yards of me with the greatest confidence. Their nest is merely a slight indentation in the ground, protected by a tuft of prairie-grass. I have often seen the eggs, numbering four or five, of a large size, and of an olive-brown colour, profusely spotted with dark brown. I have never known them breed on ground that has been once cultivated, but always on the wild prairie-land"

The Plate represents two birds, of the natural size.



TRYNGITES RUFESCENS.

W. Gould & W. B. Fisher del. et lith.

Walter Imp.

TRYNGITES RUFESCENS.

Buff-breasted Sandpiper.

Tringa rufescens, Vieill. Nouv. Dict. d'Hist. Nat., tom. xxxiv. p. 470.

Actitis rufescens, Schleg Rev. Crit. des Ois. d'Eur., p. 92.

Tryngites rufescens, Cab.

Tringoides rufescens, G. R. Gray, Cat. of Brit. Birds in Coll. Brit. Mus., p. 161.

HAVING little or nothing to communicate respecting the habits and economy of this exceedingly rare species of Sandpiper, I may be allowed to compensate as far as may be for this deficiency by calling the attention of my readers to the great elegance of its form, the neatness of its appearance, and the beautifully pencilled markings of the underside of its primaries. In those two great groups of birds the *Trochilidæ* and *Paradisiadæ* (Humming-birds and Birds of Paradise), I could undertake to show that singularity of structure and ornamentation have been carried out in various parts of the body and in nearly every distinct set of feathers. In some of the former, as in *Cephalepis*, the feathers of the crown are lengthened into elegant crests; in others, as in *Eriocnemis*, the upper tail-coverts are largely developed and wonderfully coloured, while in *Hypuroptila* it is the under tail-coverts that are conspicuously displayed. Among the Birds of Paradise some have trimly cut mantles, others a kind of apron; that remarkable bird the *Semioptera Wallacei* has two of its secondary wing-feathers greatly prolonged and placed at a right angle to the remainder; and hundreds of other equally singular instances might be quoted of what we can only regard as decorative ornamentation; and if it is not for the same purpose that the beautiful pencillings of the under surface of the primaries of the Buff-breasted Sandpiper have been designed, I really know no other; and, indeed, the true reason will probably never be known. The bird was first made known to science by M. Vieillot—who described a specimen from Louisiana, in the second edition of the “Nouveau Dictionnaire d'Histoire Naturelle,” tom. xxxiv. p. 470, as *Tringa rufescens*,—and was first recorded and figured as a member of our avifauna by Mr. Yarrell, in the 16th volume of the ‘Transactions of the Linnean Society,’ p. 109, pl. 11, from a specimen obtained by him in the autumn of 1826. Since that date several other examples have been procured in various parts of England, and one in Ireland; but its visits to our islands must be regarded as purely accidental, as, indeed, must also be its occurrence on the continent of Europe, its proper home being America, in the northern parts of which country it breeds and passes the summer, and thence migrates to other parts of the United States, Central and South America, as far as Brazil, where, according to Natterer, it is common. From all of these countries I have seen specimens; and I would here record my obligations to Dr. Rae for his kindness in presenting me with a fine pair, obtained by him at Repulse Bay, on the 14th of June, 1854, during one of the Arctic Expeditions in search of my lamented friend Sir John Franklin.

As the bird is so rare, it will be well perhaps to enumerate all the instances with which I am acquainted of its occurrence in our islands.

Mr. Yarrell's specimen was shot early in the month of September 1826, in the parish of Melbourne, in Cambridgeshire, in company with some Dotterel (*Charadrius morinellus*). A specimen preserved in the Museum at Norwich was killed at Sherringham, on the coast of Norfolk.

A male, killed in May 1829, at Formby, on the banks of the river Alt, about thirteen miles north of Liverpool, was sent to the market of that town for sale, along with some Snipes, and now forms part of the fine collection of British Birds belonging to the Rev. Thomas Staniforth, of Storr's Hall, Windermere.

A fourth example, shot at Yarmouth, in the autumn of 1839 or 1840, was formerly in the possession of the late T. C. Heysham, at Carlisle.

Two more are mentioned as having been killed on the coast of Norfolk—one on the 22nd of September, 1841, and the other on Breydon Broad, September 20th, 1843.

Stephen Stone, Esq., of Brighthampton, informed the Rev. F. O. Morris that another was met with on some low land through which the Isis flows, near Bampton, in Oxfordshire. Thompson says:—“According to F. M'Coy, Esq., one shot by J. Hill, Esq., near the Pigeon-house, Dublin Bay, is preserved in the Museum of the Natural-History Society of that city. When the bird was killed is not stated.”

Mr. H. Blake-Knox has recorded, in the ‘Zoologist’ for 1866, that one was shot early in the morning about the beginning of 1864, by Mr. Joyce, in company with another, too much injured for preserving, on a piece of slob land called the People's Park, beside the town of Belfast.

In the ‘Zoologist’ for 1843, F. Bond, Esq., has recorded that a specimen, obtained on the Sussex coast, had lately come into his possession.

In Mr. Rodd's valuable 'List of British Birds as a guide to the Ornithology of Cornwall,' it is stated that two instances only are on record of its capture in that county: "one occurred in the month of September 1846, when it was seen and shot on the flat sands between Penzance and Marazion; the other specimen, in a similar state of plumage, was killed in the latter part of September 1860, at a pool near Chûn Castle, Morvah, by Mr. W. H. Vingoe." Mr. Rodd elsewhere remarks:—"It appears that it does not confine itself to the tidal estuaries, but affects moorland marshes"—an inference coincident with that of Mr. Selby, who says, "from the circumstance of its having been killed at a distance from the coast, it probably frequents the lakes and rivers of the interior."

Vieillot has included this bird among the birds of France, on the strength of a specimen having been found by M. Jules de Lamotte, in Picardy.

Although the Buff-breasted Sandpiper is, as I have stated, a native of both the South and North American continents, it is so far from being common there that its existence was known to neither Wilson nor Bonaparte, nor even to Audubon, until communicated to him by Mr. Yarrell; and after figuring the bird in his celebrated work from a specimen procured at Boston, he had to express his regret that he could "say nothing respecting its habits and haunts, further than that, having seen a wing of it in the possession of my friend Captain James Clark Ross, I think it probable that it breeds near the Arctic circle, as he received the wing from the sailors, who had found it in the course of one of the numerous inland excursions in the desolate regions from which these intrepid navigators have recently returned."

Nuttall, in his 'Manual of the Ornithology of the United States and Canada,' says:—"This elegant species, in some seasons, is not uncommon in the market of Boston, in the months of August and September, being met with near the capes of Massachusetts Bay. Specimens have also been obtained from the vicinity of New York, and it was first discovered in the then territory of Louisiana; so that, coursing along the shores of the Mississippi, and thus penetrating inland, it probably proceeds, as well as in the vicinity of the sea-coast, to its northern destination to breed—DNA is often here associated with the Pectoral Sandpiper, which it resembles very much in size and bill, though perfectly distinct in plumage. Its food, while here, consists principally of land- and marine insects, particularly grasshoppers, which, abounding in the autumn, become the favourite prey of a variety of birds."

Mr. H. E. Dresser, who had opportunities of observing the bird during a visit to Southern Texas, says:—"The Buff-breasted Sandpipers appeared late in August, and were generally found on some grass near the Lagoon at Matamoras, and not consorting with other Sandpipers. *En route* to San Antonio these birds were common; they were seen in small flocks by the roadside, and in grassy places; their habits called to mind those of the Kentish Plover; they proved good eating, only they were too small."

I append a description of the bird in its finest state of plumage, taken from the specimens presented to me by Dr. Rae:—

Centres of the feathers of the head, back of the neck, and upper surface brownish black, their margins being light buffy brown, tinged with reddish on the wing-coverts; primaries dark brown, deepening into black towards the extremities, which are slightly tipped with white; their outer webs light brown; their shafts nearly white; their inner webs margined with buffy grey, finely freckled with dark brown; the lengthened secondaries dark brown, conspicuously margined with light brown tinged with reddish towards the tips; rump and upper tail-coverts dark brown, margined with reddish buff; two central tail-feathers brownish black, with light shafts and edges; the lateral feathers light brown, with a double mark near the tip of greyish white and black extending down the outer web; the outer margin and the tip nearly white; sides of the head, front of the neck, breast, and under surface of the body buff, deepest on the breast, the sides of which are ornamented by a number of nearly round black spots, one at the tip of each feather; on the abdomen, the feathers faintly margined with greyish white; under surface of the wing white, with a few small spots of black at the inner edge of the shoulder; under wing-coverts freckled, and with a large spot of black near the tip of each feather, these marks and the freckles on the inner webs of the primaries showing very conspicuously when the wing is raised; "under surface of the secondaries ending in sabre-shaped points, presenting a series of lines formed by alternating shades of white, black, and dusky bands, which, in the adult, are well defined, and present a beautifully variegated appearance peculiar to this species" (*Yarrell*); bill black; irides dark brown; legs yellow.

The figures are of the size of life.



TRINGA CANUTUS, Linn.

Illustrated by W. Hart, del et lith.

Walter, Imp.

TRINGA CANUTUS, *Linn.*

Knot.

Tringa canutus, Linn. Faun. Suec., p. 65.

——— *ferruginea*, Meyer, Taschenb. deutsch. Vög., tom. ii. p. 395.

——— *calidris*, Linn. Syst. Nat., tom. i. p. 253.

——— *cinerea*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 673.

——— *grisea et naevia*, Gmel. ibid., p. 681.

——— *islandica*, Gmel. ibid., p. 682.

——— *australis*, Lath. Ind. Orn., vol. ii. p. 737.

Canutus islandicus, Brehm, Vög. Deutschl., p. 654.

——— *cinereus*, Brehm, ibid., p. 655, tab. 34. fig. 2.

THE Knot is more numerous in Britain during the spring and autumn months than at any other season of the year. At the former period it is proceeding northward to breed in some unknown country, and in the latter it is retracing its steps in a southerly direction; our islands must therefore be regarded as a mere halting-station during its great vernal and autumnal movements: but this statement must not be taken literally, inasmuch as in the intervening seasons stray individuals and even small flocks are sometimes seen. I have received specimens of the Knot from nearly every coast of Africa; and it is probably that part of the globe from which our numerous spring visitors arrive, and to which they again proceed in autumn. Judging from a letter kindly transmitted to me by Lord Lilford, Spain, from south to north, would seem to be another of its halting-places; for he says:—"I found this species in enormous numbers (I believe I might, without exaggeration, say in millions) on the great alluvial flats of the Guadalquivir, not far from San Lucar de Barrameda, in the first fortnight of May 1872. There were also great numbers of many other species of marsh-birds; but this was by far the most numerous at that time. Almost all of the many specimens we obtained were in full summer plumage. Their numbers daily diminished as the marshes became drier with the advance of the season. I have kept a great many of this species alive in my aviary, some of which regularly acquired the red plumage in summer; but it seemed to me never so brilliant as in the wild birds. They often perched on the cross-perches in the aviary, and fed readily on chopped meat, bread, soaked grain, worms, &c., in summer catching gnats and flies for themselves."

"The Knot," says Yarrell, "visits Iceland, and goes to much higher northern latitudes every summer, as reference to the natural-history details of our various Arctic expeditions will prove. Captain Sabine, in his memoir on the birds of Greenland, says:—"The Knot was killed at Hare Island in June." On Sir Edward Parry's first voyage, these birds were found breeding in great abundance on the North Georgian Islands; and on the second voyage a young male of the year was killed in the Duke of York's Bay on the 17th of August. Dr. Richardson adds:—"Knots were observed breeding on Melville Peninsula by Captain Lyon, who tells us that they lay four eggs on a tuft of withered grass, without being at the pains of forming any nest." In the 'Fauna Boreali-Americana,' Dr. Richardson says the Knot breeds in Hudson's Bay and down to the fifty-fifth parallel; the eggs are described as being of a light yellowish brown, marked at the larger end with grey and reddish spots, forming more or less a sort of zone, and but little spotted towards the point." This bird, in all its various states of plumage, appears to be well known to the ornithologists of the United States.

The Knot is evidently less common on the west coast of Scotland and the Outer Hebrides than on the east; for Mr. Robert Gray says:—"Judging from my own observations, I should be inclined to regard this bird as a somewhat uncommon species in the western counties of Scotland. I have met with occasional specimens from Sutherlandshire to the Mull of Galloway, but have never seen such flocks on our shores as are to be seen on those of the eastern counties. It has occurred in Islay, as I have been informed by Mr. Elwes, but not, so far as I am aware, on any of the other islands, except in a single instance, namely that of a specimen in full summer plumage which was shot on the 30th of July 1870, by Captain MacRea, in the strand of Vallay, in the North Uist, and shown to me by that gentleman three days afterwards, when I visited the island. This specimen is now in the collection of Captain Orde. In September 1868, when on a visit to the Mull of Galloway lighthouse, I saw a fine specimen taken on the lanterns, against which it fell stunned; but Mr. McDonald, one of the keepers there, informed me that he had never observed one before."

Speaking of the birds of Ireland, Thompson says "the flight of the Knot is very swift and strong. On the 1st of February 1845, I noticed a large flock of from a thousand to twelve hundred, sweeping over the

banks on the Antrim side of Belfast Bay, rising high into the air, and passing through evolutions similar to those of the Dunlin. The first time they swept past, though at some distance, they actually startled me by their silvery flash. It was within two hours of high water; and the atmosphere was in a most singular state. There was frost, and had been for a few days previously; the sea-banks over which the tide flows, and which have usually a cold, wet, muddy aspect, now appeared dry, as if baked, and of a rich brown and dark green colour. When the large body of Knots alighted a great number of Dunlins took their stand at one extremity of the flock. They were nearly half a mile from the road on which I was; and as every individual of the many hundreds was distinctly seen, of a silvery whiteness, running about feeding on what appeared a rich green carpet of *Zostera marina*, the singularity of the scene may readily be imagined. The Gulls, too, were conspicuous for two miles, though appearing gradually smaller as they dotted the more distant beach. The light was of such a nature that, while each Knot and Dunlin looked silvery white, every Gull appeared of the purest snowy hue." While this page was going through the press, Mr. Harting kindly favoured me with the following notes:—"The Knot is found throughout Europe as a migratory species in spring and autumn; but a good many remain to winter on the southern coast. It passes down the west coast of Africa through Damaraland (where the late Mr. Andersson obtained specimens) to the Cape; it is not found in Egypt, nor on the east coast of Africa. It visits the Atlantic shores of America; but in Asia it is rare. Two specimens only are known to have been procured in India—one in winter plumage, obtained in the Calcutta bazaar, and one assuming the summer plumage, killed in southern India; the latter is now in the Calcutta Museum. It has occurred accidentally in Australia, specimens having been obtained by Strange in Moreton Bay; it also visits New Zealand.

"It is remarkable that the colour of the bill, legs, and feet in this species varies according to season; in summer they are nearly black, the soles of the feet greenish clay-colour. In winter the bill and tarsi are greenish grey, and the soles of the feet yellowish clay-colour.

"I think the Knot is one of the tamest of our shore-birds, and will allow a very near approach before taking wing, especially in autumn, when the flocks are composed for the most part of young birds. It is very easily decoyed, too, by an imitation of its note, even when the gunner is not concealed. When out in Pagham Harbour after Grey Plovers and Curlews, I have frequently called Knots right over the punt; and lying down in the punt in a deep gully waiting for the tide, I have called a single Knot over the mud from a considerable distance. It ran the whole way, calling at intervals in reply to me, and at length came so close that I might have knocked it down with an oar. I did, indeed, try to touch it with the muzzle of my gun, when it rose and flew away, the man who was with me in the punt exclaiming 'If you'd only kept on calling, Sir, I really believe he'd have walked into the boat.' I mention this to show how tame and confiding this bird is."

There is scarcely any one of the Sandpipers that has more pleasing associations connected with it than the Knot. The seasonal changes it assumes are both curious and interesting. Its winter garb is totally different from its rich summer dress, while the young, during the first autumn, have all the light-grey feathers of the back crescented with white or greyish white. As a bird for the table, although not equal to the Snipe, it is by no means despicable; and many thousands are annually sent to our markets for consumption as food. The extreme tameness of its disposition deprives any true sportsman of the desire to destroy it; and it is principally those who live by their gun, the men who traverse the broads in their flat-bottomed boats, and whose nasal organs are accustomed to the odour of the mud they almost breathe, that supply our markets by the tithe they take of the birds during their flight. "The first flights," says Mr. Stevenson, "are described by Mr. Dowell as by no means difficult of approach; 'but as the season advances and more arrive, they assemble in larger flocks, and are then more wary, and, except in dirty weather, are not to be approached by the aid of a gunning-punt. Those which arrive in August and September usually leave again in October. Overton, the Blakeney gunner, once shot two hundred and thirty Knots, twenty-five Grey Plovers, and eighteen Redshanks. Now, as the weight of the Knot is from four and a half to six ounces, and that of the Plovers and Redshanks even more, in a utilitarian point of view this shot was an important one.

The Plate represents the bird in summer and autumn plumage, and the young of the year, all of the natural size.



CALIDRIS ARENARIA.

CALIDRIS ARENARIA.

Sanderling.

Tringa arenaria, Linn. Syst. Nat., tom. i. p. 251.

Charadrius calidris, Linn. Syst. Nat., tom. i. p. 255.

Arenaria calidris, Meyer, Taschenb. deutsch. Vög., tom. vii. p. 68, tab. 59. fig. 4.

——— *vulgaris*, Bechst. Ornith. Taschenb., tom. ii. p. 462.

Calidris arenaria, Leach, Syst. Cat. of Indig. Mamm. & Birds in Brit. Mus., p. 28.

Charadrius rubidus, Gmel. edit. Linn. Syst. Nat., tom. i. p. 688.

Arenaria grisea, Bechst. Naturg. Deutschl., tom. iv. p. 368.

Calidris grisea, Brehm, Vög. Deutschl., p. 674.

Tringa tridactyla, Pall. Zool. Ross.-Asiat., tom. ii. p. 198.

I KNOW of no class of persons so assiduous and so daring as the collectors of birds' eggs,—whether it be the plough-boy sitting on a stile with the eggs of a Magpie brought down from the waving branches of the loftiest tree in the hedgerow, or the undergraduate who risks his life in climbing a frowning precipice for the eggs of the Chough or swims a cold loch to examine the eyrie of the Osprey, or those who take a perilous voyage to the inhospitable regions of Spitzbergen for the chance of obtaining the nest of the Ivory Gull or (like that most enthusiastic of oologists, the late Mr. John Wolley) endure the rigours of a Lapland winter to secure the spring-laid eggs of the Waxen Chatterer. With Mr. Wolley, however, as with almost every other collector, the eggs of the Sanderling were a desideratum; and I am sure there is more than one amongst us who would start for Nova Zembla to-morrow, could he be assured beforehand of the certainty of obtaining this great object of his desire. Although the Sanderling is very generally spread over both the European and American portions of the northern hemisphere, its breeding-place has not yet been discovered: all we know is that, as certain as the season of autumn recurs, little knots of Sanderlings are seen on our sea-shores and the sandy spits of our estuaries, their snowy breasts and light-grey backs offering a marked contrast to the other Sandpipers with which they are frequently associated. Here they remain during winter. As spring-time approaches, these white and light-grey birds change their plumage, and by April and May are richly coloured with marblings of red and black, particularly on the upper surface, neck, and chest: the time of their departure is now at hand, and shortly after they simultaneously depart for their summer home; but where that may be, still remains a mystery. For myself I have no doubt that it is in a land still further north than man has yet penetrated; and that a country habitable for a short season exists near the North Pole we have every reason to believe.

It is not only in England that this bird is found during autumn, winter, and spring: it enjoys, indeed, a very extensive range of habitat, being spread over every suitable part of Europe, the shores of the Mediterranean, and as far east as that great inland sea extends. It is also found in India; and Prof. Baird states that it is found throughout the temperate regions of North and South America generally. Notwithstanding what I have said respecting our want of knowledge of the eggs and breeding-places of the Sanderling, I must not omit to mention that, in the 'Fauna Boreali-Americana,' Dr. Richardson says it "breeds on the coast of Hudson's Bay as low as the fifty-fifth parallel;" and Mr. Hutchins informed him that "it makes its nest in the marshes, rudely, of grass, and lays four dusky-coloured eggs spotted with black, incubation commencing in the middle of June."

This statement, however, I doubt not, is founded on error, and refers to some species of small Plover. Faber and, after him, Mr. Procter, observed it on Grimsey, in Iceland, where it has been said to breed; but Dr. Kruper rightly remarks that the eggs fathered upon it by the inhabitants are doubtless those of the Ringed Plover; and Mr. A. Newton says that he knows of no one who has an authenticated egg of the Sanderling. In 1858 this gentleman saw several in the south-west of Iceland, and shot a female with a very backward ovary on the 21st of May at Bæjasker; and Mr. Fowler saw it in 1862 at Akranes.

"The Sanderlings," says Macgillivray, "appear in small flocks on our northern coasts on both sides of the island as early as the beginning of September. Their numbers gradually increase, until in winter, when they are met with in all parts, they collect into large bands, which frequent the sandy shores and muddy estuaries, often mingling with various species of *Tringa*, but especially with the Dunlins. In searching for their food, which consists of small worms, testacea, and sometimes insects, they run with rapidity when following the margin of the wave, but more sedately in other circumstances, patting and probing the soft sand or mud with their bills, which they seldom introduce to any depth. It is pleasant to watch a flock so occupied, the liveliness of the little creatures, and their clean and beautiful plumage, together with the mutual

goodwill and forbearance which they exhibit, rendering them most agreeable companions. When alarmed, they fly off in a body, uttering occasionally a shrill cry, move with great rapidity, now all inclining to one side, now to the other, and performing various evolutions. In sunshine they may be perceived at a very great distance by the glancing of their white under parts. At first they are not shy, and may easily be approached; but after being molested they become rather vigilant. At high water they repose on the sands or in their neighbourhood, sometimes by themselves, but often in company with Dunlins and Ringed Plovers. Like those birds, they also feed by moonlight. Individuals are sometimes seen on various parts of the coast in summer, but it does not appear that this species breeds in any part of Britain."

Mr. Harting informs me that the latest period in spring at which he has observed the Sanderling was the 30th of May, on which day he once shot three at Wharton, on the Lancashire coast. They were exceedingly wild, in twos and threes, as if pairing; and it was some time before he could get near them: they were in nearly full summer plumage. On examining the contents of the stomach, he found their food had consisted of small univalves, sandhoppers, and marine insects, mingled with the remains of which were minute particles of gravel.

Audubon, writing of the bird as seen by him in North America, says, "Although the Sanderling extends its rambles along our Atlantic shores from the eastern extremities of Maine to the southernmost Key of the Floridas, it is only an autumnal and winter visitor. It arrives in the more eastern districts about the 1st of August, on the shores of New York and New Jersey rarely before the 10th of August, and seldom reaches the extensive sandbanks of East Florida previous to the month of November. Along the whole of this extended coast it is more or less abundant, sometimes appearing in bands composed of a few individuals, and at others in large flocks, but generally mingling with other species of small shore-birds.

"The Sanderling obtains its food principally by probing the moist sands of the sea-shores, with its bill held in an oblique direction. At every step it inserts this instrument with surprising quickness, to a greater or less depth according to the softness of the sand, sometimes introducing it a quarter of an inch, at others to the base. The holes thus made may be seen on the borders of beaches when the tide is fast receding, in rows of twenty, thirty, or more: in certain spots they are less numerous; for it appears that when a place grows unproductive of the food for which they are searching, they very soon take to their wings and remove to another, now and then in so hurried a manner that it might be supposed they had been frightened. The contents of the stomachs of those I shot while thus occupied were slender sea-worms, about an inch in length, together with minute shell-fish and gravel. At other times, when they were seen following the receding waves, and wading up to the belly in the running waters, I found in them small shrimps and other crustacea.

"In their flight, which is rapid, and straighter than that of other small species, the Sanderlings do not perform so many evolutions as Sandpipers generally display. They generally alight about a hundred yards from the place whence they started, and run for a yard or so with their wings partially extended. They move on the mud with great activity, so as to keep up with a man walking at a moderate pace."

The total absence of a hind toe forms a conspicuous feature in the structure of the Sanderling—the more so as, I believe, this member is not wanting in any other known Sandpiper: the why and the wherefore of this peculiarity in the structure of its foot has not been ascertained; but we may rest assured that its habits differ in some minute particular from those of the Stints. The foot of the Golden Plover is tridactyle, while the Grey Plover possesses a small hind toe; here, therefore, a similar difference occurs in the members of another group of birds, but in an opposite direction, the Grey Plover's foot being the only species in which that member exists.

Sufficient has been said respecting the seasonal change of plumage to which the Sanderling is subject; but I may mention that the young of the year have the upper surface darker than the old birds, and that a lunate patch of mottled feathers occupies the sides of the chest.

The Plate represents the bird in three states of plumage—that of summer, of autumn, and of winter,—the figures being of the natural size.



LIMNOSCINCLUS PECTORALIS.

J. Gould & H.C. Richter, del & lith.

Walter, imp.

LIMNOCINCLUS PECTORALIS.

Pectoral Sandpiper.

Tringa maculata, Vieill. Nouv. Dict. d'Hist. Nat., tom. xxxiv. p. 465.

——— *pectoralis*, Say, in Long's Exped., vol. i. p. 171.

——— *campestris*, Licht. Verz. der Doubl., p. 74.

Pelidna pectoralis, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 50.

——— *maculata*, Bonap. Tabl. des Echass., Compt. Rend. de l'Acad. Sci., tom. xliii., séances des 15 et 22 Sept. 1856.

Tringa (Actodromas) maculata, Baird, Cat. of N. Amer. Birds in Mus. Smiths. Inst., p. xlvii. no. 531.

Limnocinclus pectoralis, Gould, Handb. Birds of Aust., vol. ii. p. 254.

I HOPE my fellow-labourers in the field of ornithological science will coincide with me in retaining Say's specific name of *pectoralis* for this species of Sandpiper, in lieu of the prior but inappropriate one of *maculatus* assigned to it by Vieillot—more especially as it is commonly known, both in its native country (America) and in England, by the trivial name of Pectoral Sandpiper. In the second volume of my 'Handbook to the Birds of Australia,' I have instituted the genus *Limnocinclus* for the reception of this species and the old *Tringa acuminata* of Horsfield, better known as the *T. australis* of Jardine and Selby, a bird which so nearly resembles the Pectoral Sandpiper in its winter plumage that it is only by the discriminating eye of the ornithologist they can be distinguished the one from the other; in the summer plumage, however, they are very different.

Although several examples of the *L. pectoralis* have been killed in the British Islands, they can only be regarded as accidental visitors, individuals which have strayed over to this country, probably from America, where it ranges far and wide, from the tropics, through Mexico, Texas, and the United States, to Hudson's Bay: the Rev. H. B. Tristram has also killed it in Bermuda. The recorded notices of the Pectoral Sandpiper are, unfortunately, of no great interest; but such as they are they will be found below: in the meanwhile I would observe that I have at this moment before me several specimens in their full nuptial dress, and that there is another, finer still, in the collection at the British Museum. In this state I notice that the breast-feathers are much more lengthened than in winter, and have the spots with which they are adorned more sharply defined. These feathers the bird doubtless puffs out when endeavouring to attract the notice of the females; indeed we have reason to believe that the entire chest is then distended, after the manner of the Bustard and the domestic Pouter Pigeon, Mr. G. R. Gray having laid before the meeting of the Zoological Society of London, held on the 22nd of March, 1859, a drawing of this species made by the late Mr. Adams, Surgeon of H.M.S. 'Enterprise,' representing the bird thus inflated, and remarked that, from the correctness of the other drawings made by the same gentleman, he had no doubt he had observed this singular phenomenon in the specimen from which the drawing was taken. "The drawing was more especially placed before the Members in the hopes of learning whether such a singularity of habits had been noticed before in this or any other of the *Tringæ*." In winter the spots on the breast are not seen, their place being occupied by longitudinal striæ.

From a paper by the late J. D. Hoy, published in the 'Magazine of Natural History,' new series, vol. i. p. 115, we learn that the first occurrence of the Pectoral Sandpiper in England was "noticed, and a plate given, by Eyton in his Continuation of Bewick's 'Birds.' It was killed on the 17th of October, 1830, on the borders of Breydon Broad, an extensive sheet of water near Yarmouth, rather celebrated for the numerous rare birds which have, at different times, been observed and shot on its banks and waters. The person who killed it remarked that it was solitary, and its note was new to him, which induced him to shoot it. It proved, on dissection, to be a female." Dr. Edward Clarke informed Mr. Yarrell that another had been shot very near Hartlepool, in October 1841.

In a note from Mr. H. Stevenson, of Norwich, dated January 29, 1868, that gentleman says:—"I send you the dates of Mr. Gurney's and my Pectoral Sandpipers, as you requested. Mr. Gurney's was shot near Yarmouth, on the 30th of September, 1853; he had an opportunity of examining it in the flesh, and on dissection it proved to be a female and apparently a bird of the year; it was not fat, but in very fair condition. Its stomach contained some small seeds and the remains of a few insects, too much mutilated to be recognizable. Mine was shot at Caistor, near Yarmouth, on the 16th of September, 1865. It was brought in the flesh to one of our bird-stuffers, from whom I purchased it." Only last week, Dr. Lowe, of Lynn, sent me, to examine, not knowing what it was, another Pectoral Sandpiper, which had been netted in Terrington Marsh; it is now in the Lynn Museum. This also was a female and a young bird of the last year; the spots on the breast were very small, none of them transverse; a few new feathers, with rufous edgings, were making their appearance. This is the fourth authenticated Norfolk specimen.

A Pectoral Sandpiper was shot near Filey, in the East Riding of Yorkshire ; another at the Tees mouth, near Redcar ; and a third in a grass-field, at Coatham, near the same place. It is also said to have been met with about Gwyllen Vale, near Falmouth ; and in June 1830 the late D. W. Mitchell, then of Penzance, but afterwards the well-known Secretary of the Zoological Society of London, sent to Mr. Yarrell "a coloured drawing and a fully detailed description, with measurements, of a specimen shot by himself on the 27th of the previous month, while the bird was resting on some sea-weed within a few yards of the water on the rocky shore of Annet, one of the uninhabited islands of Scilly. On the following day another example was seen, but became so wild after an unsuccessful shot, that it flew off to another island, and escaped altogether. The close accordance of the specimen obtained with the description of *Tringa pectoralis* in the fourth part of Temminck's 'Manual' led Mr. Mitchell to a true conclusion as to the species and its novelty and interest in this country."

Having thus given all that is known to me respecting the Pectoral Sandpiper as seen in England, I proceed to furnish extracts from those who have had opportunities of observing it in its proper home and in other countries.

Mr. Nuttall says :—"This conspicuous species of Sandpiper, first detected by Mr. Say, is by no means uncommon in various parts of the United States, migrating north and perhaps west to breed, as they are common in the remote plains of the Mississippi, and retire at the approach of winter to the southern limits of the Union, being met with at this season also in the West Indies. They are killed in abundance on the shores of Cohasset, and other parts of Massachusetts Bay, and are brought in numbers to the markets of Boston, being very fat and well flavoured. They arrive in flocks, about the close of August, and continue there, as well as in New Jersey, till the month of September. In some instances, solitary individuals have been killed in the marshes of Charles River, in Cambridge, about the 22nd of July. While here, they feed on small coleoptera-larvæ, and the common green *Ulva latissima*, as well as on some species of *Fucus* or seaweed, on which they become fat. They utter a low plaintive whistle when started, very similar to that of other species. Like the Snipe, they seem fond of damp meadows and marshes ; and solitary individuals are often surprised by the sportsman in the manner of that bird."

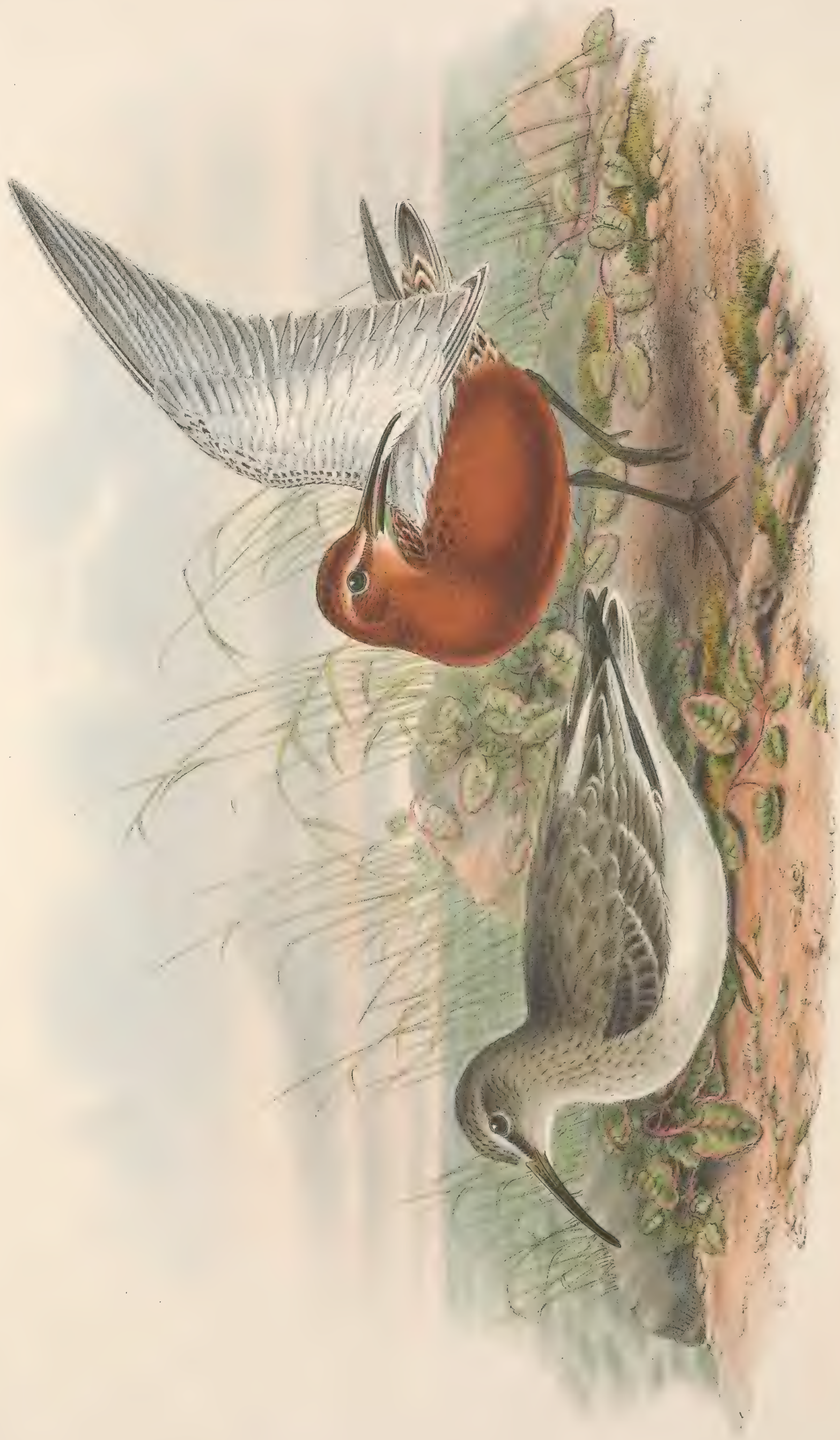
"This Sandpiper," says Audubon, "is more abundant in the neighbourhood of Boston than elsewhere. I have observed that the flight of the Pectoral Sandpiper resembles that of the Knot, and is firm, rapid, and well sustained. It skims rather low over the surface of the water or the land, and at times shoots high up into the air, propelling itself with double rapidity and in perfect silence. It runs with great agility, and probes the sand or wet earth, immersing its bill up to the base."

Mr. Edward Newton met with this bird occasionally in St. Croix, one of the West-India Islands, in 1858, after the 14th of September, and obtained some examples, but never saw more than two in company ; and his brother, Mr. Alfred Newton, remarks that "specimens of this species differ remarkably in size, as is probably the case with many of the *Tringinæ* ; and it is possible that, in the present instance, it may be found that these differences in size are accompanied by a constant variation in plumage, and, perhaps, also in nesting-locality, so as to form races which should be always carefully distinguished from one another, as is the case with the smaller Dunlins of Europe and the Dunlin of America."

Mr. Swinhoe observed the *L. pectoralis* in great abundance in the marshes between Takoo and Pekin, in North China, during the month of August, and also procured it at Amoy.

Entire upper parts brownish black ; all the feathers edged and tipped with ashy and brownish red ; rump and upper tail-coverts black ; some of the outer feathers of the latter edged with white ; line from the bill over the eye ashy white ; throat, abdomen, under wing-coverts, axillary feathers, and under tail-coverts white ; front of the breast and neck ashy white ; all the feathers darker at the base, and with partially concealed or pointed spots of brownish black ; quills brownish black ; shaft of the first primary white, of the others brown ; secondaries tipped and edged with white ; tertiaries edged with dull reddish yellow ; bill and feet dark greenish black.

The Plate represents three specimens of this bird, of the natural size, the centre one being in the plumage of summer.



ANCYLOCHETUS SUBARQUATA.

Illustr. &c. by W. H. Wood.

W. H. Wood.

ANCYLOCHEILUS SUBARQUATA.

Curlew Sandpiper.

- Scolopax subarquata*, Güld. Comm. Petrop., tom. xix. p. 471.
——— *africanus*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 655.
——— *Dethardingii*, Bechst. Tr. of Lath. Syn., tom. v. p. 139, tab. 123.
Numenius subarquata, Bechst. Naturg. Deutschl., tom. iv. p. 135.
——— *pygmæus*, Bechst. ibid., p. 148.
——— *africanus*, Lath. Ind. Orn., vol. ii. p. 712.
——— *ferrugineus*, Wolf & Meyer, Taschenb. Deutschl. Vög., tom. ii. p. 356.
Tringa pygmæa, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 30.
——— *subarquata*, Temm. Man. d'Orn., 1815, p. 393.
——— *falcinella*, Pall. Zoog. Rosso-Asiat., tom. ii. p. 188.
——— *ferruginea*, Brünn. Orn. Bor., no. 180.
——— *islandica*, Retz. edit. Linn. Faun. Suec., p. 192.
Pelidna subarquata, Cuv., Brehm, Vög. Deutschl., p. 657.
——— *macrorhynchus*, Brehm, Vög. Deutschl., p. 657.
Ancylocheilus subarquata, Kaup, Natürl. Syst., p. 50.
——— *subarquatus*, Loche, Cat. des Mamm. et Ois. obs. en Algérie, p. 130.
-

THIS elegant species, which is trivially called Pigmy Curlew and Curlew Sandpiper, is neither scarce nor common in the British Islands, but is more abundant at some seasons than at others. Generally speaking, it is adults in their light or winter dress, and the young in the mottled plumage of immaturity, that are seen during the autumnal months, and the red or nuptial-costumed birds that occur in spring. It is the remarkable coloration of the plumage at this latter season, and the white rump at all times, that distinguish this species from the Dunlin and all others of the smaller *Tringinae*, and constitute probably one of the reasons why Dr. Kaup assigned to it a new generic appellation, that of *Ancylocheilus*. That it does not breed in the British Islands is almost certain; for we have no evidence of its eggs having ever been found herein; neither is it precisely known to what country it proceeds for that purpose—most probably, as is believed, to the high northern regions, to which it is supposed the red-plumaged birds, which pass us in spring, are migrating. Temminck, it is true, states that it breeds occasionally in Holland, and deposits four or five eggs of a yellowish colour spotted with brown; but this requires confirmation. With us in England, as also in Ireland and Scotland, it is frequently seen associated with the strand-loving Dunlin and the Ring-Dottrel; of this I have positive evidence from a circumstance which will never occur to me again, and seldom to any one else. It is now many years ago since I was collecting birds on the sandy sea-shore, on the coast of Kent, when a flock of shore-birds winged their way past me with their usual rapidity of flight; with the quickness of thought I fired into the middle of the flock; and three birds, and three only, dropped to my shot; on picking them up, one proved to be a Curlew Sandpiper, another a Ring-Dottrel, and the third a Dunlin, of which species I had imagined the flock to solely consist.

That the Curlew Sandpiper is of a very wandering disposition, and widely spread over the earth's surface, is most certain; for not only is it found in all suitable portions of Europe, but over the greater part of Asia, the islands of Sumatra, Java, and Australia. It is also abundant in many parts of North America, where, as in this country, it migrates northward in spring, and on its return visits Mexico, and probably proceeds still further in a southerly direction. It has been observed in North Africa; and there are records of its occurrence in the southern division of that continent.

The general contour of the Curlew Sandpiper is very elegant, its flight is exceedingly swift, and its actions on the ground are equally quick and animated; indeed it may be regarded as one of the most attractive of the group of birds with which it is associated.

Although noticed by every ornithologist who has written on our strand-birds, little has been recorded in this or any other country respecting its habits. Mr. Stevenson, in his 'Birds of Norfolk,' merely says, "this species is not unfrequently met with on our coast both in spring and autumn, and more particularly at the latter season. From my own observations, more specimens seem to be obtained in September and October than at any other time. Messrs. Sheppard and Whitear remark that it is more solitary than the Dunlin, not more than a pair being seen together, and is a stupid bird, suffering a boat to approach close to it. At Blakeney Mr. Dowell describes them as 'not very rare, occurring for the most part singly, amongst flocks of Dunlins, and are easily distinguishable by their gait and longer bill and conspicuous white tail-coverts.'

Examples in the rich red plumage of the breeding-season are occasionally met with either late in spring or on their return from their breeding-grounds at the close of summer. Yarrell, who was well acquainted with our Norfolk coast, says:—"I have obtained this bird in June, in the height of its summer plumage, from Norfolk, and have seen the young from the same locality early in July." There is, of course, no reason to suppose that this species has ever remained to breed in this country; and the young birds above referred to must have commenced their southward passage thus early with their parents, which supposition agrees with the statement of Messrs. Gurney and Fisher, that they arrive 'about the end of July.'"

Macgillivray, writing of the bird in Scotland, says:—"Although this species is very uncommon along our shores, it is probably not of so very rare occurrence as it is generally supposed to be, inattentive observers and sportsmen being apt to confound it with the Dunlin. It arrives in small flocks on the shores of the Firth of Forth in the beginning of September, and is occasionally met with at the mouth of the Esk, at Musselburgh. Generally mingling with the Dunlins, it is hardly distinguishable from them, but when seen apart is observed to have precisely the same habits as to its mode of searching the sands and mud for food, which it does by walking or running according to occasion, and patting or probing in them for small worms and other marine animals, along with which it swallows fragments of quartz and other mineral substances. Its flight is rapid and light; its ordinary cry a shrill scream, differing from the cry of the Dunlin."

Thompson says it is a regular autumnal migrant to the north of Ireland, where in winter it is of rare occurrence. September is its favourite month in Belfast Bay: the earliest arrival noted is the 25th of August; before the end of September its departure is usually taken; and it rarely remains until the end of October.

"The numbers vary much in different years. In 1838 they were remarkably scarce. In the autumn of 1837 they were more common than usual, and numbers were shot; a flock of about twenty was once seen, and out of a party of eight six were killed at one discharge. My informant distinguishes this species from the Dunlin, when on the ground, by its superior size—in flight, from the lower part of the back being white—or by its call, which is very different from that of its congener, and is said more to resemble that of the Turnstone than of other shore-birds. In 1839 they were more plentiful than ever before known, and arrived before the ordinary time, a couple having been shot on the 2nd of September. On the 7th of that month a flock of from thirty to forty appeared; and they increased until the 21st, when not less than a hundred were seen in company with a large body of Dunlins, though generally, when a number are together, they do not associate with other species. Occasionally about fifty or sixty would rise together from one extremity of the flock, and, after flying about for a short time, would alight with the others. The noise produced by their calls, especially when on wing, was very great. This large body subsequently proved to have been collected together for migration, as they took their departure on that day from the bay, and not one was seen again during that season. They usually keep to the shores of the bay; but in 1836 they frequented the river Lagan, within flow of the tide at high water, in flocks. On the 6th of the latter month I observed nine in company busily feeding at the edge of the river at Ormeau Bridge; in the following year also, they frequented the tidal portion of the river."

Mr. Wright states that the Curlew Sandpiper is common in spring and autumn in Malta; Lord Lilford, that it occurs in Corfu occasionally in great numbers, and generally in full breeding-plumage, about the end of May; Mr. Simpson, that a muddy ditch near Mesolonghi is a favourite resort in spring; Mr. Howard Saunders notes it as common in winter in Southern Spain, and the Rev. A. C. Smith in Portugal; and in Italy Dr. Henry Giglioli informs us that *Ancylocheilus subarquata*, "in full nuptial dress, is brought alive in large numbers to the market at Pisa; it is caught with nets, and thrives very well in captivity. I kept nine or ten, for about three months, in a small enclosed space in a garden, where they had a little pool of water; I fed them on bread and chopped meat, which they ate readily; and they were brisk and active all the while I kept them, the males constantly fighting together just as Ruffs do."

Mr. Layard notes that a living example, in full breeding-dress, was captured near Hope Town, South Africa, on the 26th of April; and Mr. Gurney, that it frequents the Bay of Natal in considerable flights; Von Heuglin found it on the Red Sea from July to September in its summer dress, and young birds alone and in small flocks, and between Bab-el-Mandeb and the Somali coast, in the winter dress, in October and November. It was obtained in Palestine by the Rev. H. B. Tristram; Captain Irby found it in Oudh and Kumaon during the cold season, in very large flocks, on the sandbanks of the rivers Gogra and Choka; and Mr. Jerdon states that it is found throughout India, is rare towards the south, but common about Calcutta and in the north of India generally.

The Plate represents two birds, of the size of life—one in the plumage of summer, the other in that of winter. The plant is the *Beta maritima*, Linn.



PELIDNA CINCLUS.

Dunlin.

Tringa Schinzii, Brehm?

——— *alpina*, Linn. Faun. Suec., p. 64.

——— *cinclus*, Linn. Syst. Nat., tom. i. p. 251.

——— *variabilis*, Meyer, Taschenb. Deutschl. Vög., tom. ii. p. 397.

Numenius variabilis, Bechst. Naturg. Deutschl., tom. iv. p. 141.

Pelidna variabilis, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 98.

——— *cinclus*, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 50.

DURING the months of autumn and winter the sea-shores of most parts of our island are constantly enlivened by flocks of Dunlins, which at one moment are winging their way out to sea, and at the next sweeping round towards the beach, showing their grey-brown backs as they go away, and their silvery-white breasts as they approach; at another time the oozy mud-flats are covered by these little birds of elegant form, sprightly actions, and a disposition at once tame and unsuspecting. Flocks of the like kind are also to be seen in all similar situations on our larger tidal rivers; and every one who has been fortunate enough to tread in summer the blooming heather, and inhale the invigorating air of our northern hills (the Cheviots and the Grampians), must have seen a little restless black-breasted bird flying towards him, or endeavouring to entice him from one part of the moor to another. This is the same bird in a different state of plumage. What wonderful transformations are the Sandpipers and Plovers subject to! How differently are they clothed at opposite seasons of the year! and how well does the dress of each season accord with the colouring of the objects by which the bird is surrounded! How charmingly do their rich summer dresses harmonize with the hues of the flowering heaths and other gaily-coloured plants of their alpine home, when all nature seems to exult in what she has accomplished even in those lonely wastes, the stillness of which is only broken by the plaintive pipe of the Golden Plover and its “page,” as the subject of the present paper has been called! and at this period it has also received the trivial names of Purre, and Redbacked Sandpiper, while at the opposite one it is known as the Dunlin, Ox-bird, and Stint. A glance at the accompanying Plates, on which the bird is figured in its summer and in its winter dress, will at once enable the reader to see how greatly it differs, and how different is the kind of situation it frequents at those opposite periods of the year. In the former they will not fail to observe the scattered flock hurrying off from one of their natural enemies, the Merlin: the two birds in the foreground are scarcely awake to their danger; and one is in the act of stretching its wing, in case its pinions need be called into play. It will be unnecessary to state that the second Plate represents the bird in its summer dress; for the little richly-coloured and interesting young of a few days old, and the elegant plant known by the name of *Pinguicula*, both indicate the season it is intended to illustrate.

Speaking of the vast numbers of Dunlins occasionally seen at one time, the late Mr. Thompson, of Ireland, says, “On the 27th of January, 1847, I saw a flock of not less than 2500, and about 300 yards from them another of 1500. The larger body rising into the air, and going through their brilliant evolutions, attracted the attention of every one on the adjacent highway, most of the people standing still in admiration of them. Descending from on wing, they all swept down in the same direction, and covered an extent of land in such a manner as to remind me of grain thrown from the hands of the sower, until it reaches the ground and is scattered over its surface. Every bird of the multitude, on alighting moved at the same moderate pace, between walking and running; about equidistant from each other; and their heads being all similarly elevated, they had a most formal and singular appearance. All, too, were, as usual when congregating at any season, uttering their notes, which sounded most pleasingly musical. The voices of a host of Dunlins occasionally gives as good an illustration of multitudinous sound as I can well imagine. On the 24th of December, 1840, after the tide had ebbed for a considerable way, I saw more Dunlins close to the road before Fort William than I had ever previously observed in so small a space. There could not have been less than 5000. As many as 3000 were in a dense flock, busily feeding and keeping up a thrilling concert—like grey linnets previous to roosting; the others were somewhat more scattered. The great body first appeared glancing in the sun, then it broke up into a dozen flocks, which rose and fell in the air like molten silver. One of the finest effects is when the background is so dark that the birds are only to be seen in silvery whiteness, flashing their under plumage upon us. The uncertainty as to where they may next appear—like that of lightning from an extensive mass of thunder-cloud—adds much to the effect. Only for a space ‘brief as the lightning in the collied night’ can they be observed under such circumstances.”

Although it would scarcely be of interest to enumerate the localities in which the Dunlin is found in the British Islands (so general is its distribution therein), it will be desirable to give the extent of its range over other countries, which I am able to do with some degree of accuracy. Besides being met with at one or other season of the year in all parts of Europe, it occurs in Iceland, and in so many places in Africa as to induce the belief that it is distributed over the whole of that vast continent. We know that it is equally numerous in Asia: I have in my own collection specimens from Japan, the Malay peninsula, and India. The bird of this form which is found in North America is considered by some naturalists to be identical with our own; and even Prof. Baird, in his recently published list of the birds of that country, enumerates it as variety *Americana*. I must, however, remark that American examples are always larger than European, and that those from Japan differ in a similar manner; but the variation in size is not, in my opinion, sufficient to constitute a species. It is probable that the Dunlin does not breed in any southern country, and that the northern hemisphere is generally resorted to for the purpose of reproduction, its southern limit being the latitude of the central parts of England, and its northern far within the Arctic circle, whence proceed the greater part of the vast flocks so universally spread over our shores and those of other countries in winter. From no southern country, so far as I recollect, are examples ever sent in the summer livery, *i. e.* with black breasts and richly variegated backs.

The sexes are alike; or if there be any difference, the female is less highly coloured in summer than the male; she is also a trifle larger in size, has a longer bill, and stands somewhat higher upon her legs.

During the spring of the present year, Mr. Gatcombe, of Plymouth, very kindly sent me twelve Dunlins for examination; and in every instance the females were the largest and heaviest—the average weight being $1\frac{3}{4}$ oz., and the female 2 oz. These twelve birds afforded me an opportunity of taking admeasurements of the various parts of their structure, and of making a minute comparison of the sexes: the results, which I carefully noted down at the time, fully confirm what I have above stated; but it is unnecessary to give the details, the bird being so well known.

The nesting-place is merely a depression in the ground, with the addition occasionally of a few materials so slight as to be unworthy of the name of a nest. The eggs, which are pointed in form, and rich in marking, are four in number. The chicks or fledglings run about nimbly the day they are excluded from the shell, and are surpassingly pretty, as will be seen on reference to the accompanying plate.

The flesh as an article of diet is very inferior to that of the Snipe; still many thousands are annually sent to the markets of the Metropolis and other large towns of this and other countries.

“About the second week in July,” says St. John, “the shore and sands are enlivened by vast flocks, or rather clouds, of Dunlins, Ring-Dotterels, and other birds of the same kind, which now coming down from their scattered breeding-places collect in immense companies. When the tide ebbs, all these birds are employed in searching for the minute shell-fish and animalcula upon which they feed; and vast indeed must be the supply required. About the lochs and swamps the young Snipes and Redshanks begin to fly, and, with wild ducks, afford plenty of shooting.” (Tour in Sutherlandshire, vol. i. p. 247.)

Macgillivray states that “the Dunlins breed in great numbers on the heaths of many parts of Scotland and its larger islands, where they may be found scattered in the haunts selected by the Golden Plovers, with which they are so frequently seen in company that they have popularly obtained the name of Plovers’ Pages. Sometimes about the middle of April, but always before that of May, they are seen dispersed over the moors in pairs, like the birds just named, which at this season they greatly resemble in manners. From this period until August, none are to be found along the shores of the sea, instead of searching which they now seek for insects and worms in the shallow pools, soft ground, and by the edges of lakes and marshes. The male frequently flies up to a person intruding upon his haunts, and sometimes endeavours to entice him away by feigning lameness.

“The nest, which is composed of some bits of withered grass or sedge, and small twigs of heath, is placed in a slight hollow, generally on a bare spot, and usually in a dry place like that selected by the Golden Plover. The eggs—always four in number—are ovato-pyriform, an inch and four- or five-twelfths in length, eleven-twelfths or a little more in breadth, and have a light greyish-green, or sometimes greenish-yellow or brownish ground, irregularly marked all over with spots and patches of sombre brown and light purplish grey, more numerous toward the larger end, where they are confluent. The female sits very assiduously, often allowing a person to come quite close to her before removing, which she does in a fluttering and cowering manner.”

In this country we very frequently find Dunlins of a small size but not different in colour or markings from those ordinarily met with. These, which are doubtless the *Tringa schinzii* of Brehm, must, in my opinion, be regarded merely as a variety, and not as distinct.

The first Plate represents the Dunlin in its winter dress; the second the bird and young as it appears in summer. The plant is the *Pinguicula vulgaris*, kindly sent to me by the Rev. H. Harpur Crewe.



PELIDNA CINCLUS.

T. Gould & H. C. Richter, del. et lith.

(Winter plumage)

Walter, imp.



Ptilinopus Bonapartei.

J. Gould & W. Hart del. et lith.

W. L. G. del.

PELIDNA BONAPARTEI.

Bonaparte's Sandpiper.

Tringa cinclus, var., Say, in Long's Exped. to Rocky Mount., vol. i. p. 172.

——— *Schinzii*, Bonap. Syn. of Birds of Unit. States.

——— *Bonapartei*, Schleg. Rev. Crit. des Ois. d'Eur., p. 89.

——— *melanotus*, Blas. List of Birds of Eur., p. 19?

Pelidna Schinzii, Bonap. Geogr. and Comp. List of Birds of Eur. and N. Amer., p. 50.

Actodromas bonapartei, Coues, Proc. Acad. Nat. Sci. Philad., 1861, p. 232.

As there appears to be some confusion respecting the synonymy and identification of the specimens of this bird which have occurred in Europe, I have availed myself of Mr. Harting's valuable assistance in the matter; I say valuable, because for some time past he has paid great attention to the Sandpipers, with a view, I believe, of publishing a Monograph of the family; the synonyms above given may therefore be depended upon.

Bonaparte's Sandpiper, respecting which we know but little in this country, has occurred sufficiently often to demand a place in the present work, as it has done in many others from the appearance of my 'Birds of Europe' to the latest publication on our native birds. "At least nine instances," says Mr. Harting, in a letter to me, "have been recorded of its occurrence in England, besides one in Ireland, supposed by Thompson to have been killed in that country; and he, in his work on the birds of Ireland, gives us the following 'circumstantial evidence' on that subject:—"There is a specimen of *T. Schinzii* in the Belfast Museum, respecting which positive information cannot now be obtained; but it is supposed to have been shot in the bay here, in consequence of its having been preserved in a manner peculiar to a taxidermist who set up a fresh "Sandpiper" (as it is called in his book) for the collection on the 15th of April 1836; all circumstances considered, that Sandpiper is believed to have been the one in question; no *Tringa* was mounted by the same person from dried skins. I have compared the specimen with the American one described and figured by Mr. Yarrell, and found identity in the species.'" Mr. Rodd, in his 'List of British Birds as a Guide to the Ornithology of Cornwall,' says:—"Two specimens of Schinz's *Tringa* were killed on Hayle estuary in October 1846, by Mr. Vingoe." It is an extremely rare British bird; and Mr. Yarrell refers to one only having been killed, and that in Shropshire. It is very nearly allied to the Dunlin; but its white rump and shorter bill, and the absence of any black patch on the breast in summer, are distinguishing characters. The following is Mr. Harting's account of the occurrences of this bird in Britain as published in his 'Handbook,' p. 142:—"One, Stoke Heath, Shropshire: Eyton, Fauna of Shropshire, Ann. Nat. Hist. vol. ii. p. 53; Yarrell, Hist. Brit. Birds, vol. iii. p. 79. One, Ireland; in Belfast Museum: Yarrell, *op. cit.* A pair, Hayle, Cornwall, 13th Oct. 1846: Rodd, Zoologist, 1846, p. 1554: in the collection of Mr. Rodd. One, Scilly, Oct. 1854: Rodd, Zoologist, 1854, p. 4512. One, Kingsbury, Middlesex, 1856: Harting, Birds of Middlesex, p. 273: in the collection of Mr. H. E. Dresser. One, near Bexhill, Sussex, 8th October, 1857: Kent, Zoologist, 1859, p. 6537: in the collection of Mr. J. H. Gurney. Two, Scilly, Oct. 1870: Rodd, Zoologist, 1870, pp. 2384, 2409. Four, Instow, North Devon, Nov. 1870: C. Smith, Zoologist, 1870; Mathew, Zoologist, 1871, p. 2441: in the collections of Mr. Cecil Smith and the Rev. M. A. Mathew. One, Eastbourne, Sussex, 12th Nov. 1870: Bates, Zoologist, 1871, p. 2442: in the collection of Mr. J. H. Gurney." The above occurrences, continues Mr. Harting, refer to "the Schinz's Sandpiper of Eyton, Yarrell, and other English naturalists—*Tringa Schinzii* of Bonaparte, Amer. Orn. iv. p. 69, pl. 24, 1832, but not of Brehm, Beiträge, p. 355, 1822, nor of Naumann's Vög. Deutschl. vii. p. 453, pl. 187, 1834, whose *T. Schinzii* is only a small variety of the Dunlin." This gentleman further remarks, "According to Prof. Baird, the range of this bird in America is restricted to the countries east of the Rocky Mountains; but it may prove to have a wider range than this; for I have in my collection a specimen which was procured on the boundary-line fixed by Professor Baird (namely, at Republican Fork, Rocky Mountains), on the 25th May, 1864, at which time of year these birds are travelling on their spring migration. This species is not confined to North America, but passes right through the southern continent to the Falkland Isles; I have specimens from Peru, Chili, and the Falklands; but I am not sure if the bird is as widely distributed on the eastern side of South America as it is on the west.

"Although," says Audubon, in his 'Ornithological Biography,' p. 529, "I have met with this species at different times in Kentucky, and, along our extensive shores, from the Floridas to Maine, as well as on the coast of Labrador, I never found it breeding. Indeed I have not met with it in the United States,

excepting in the latter part of autumn and in winter. Those procured in Labrador were shot in the beginning of August, and were all young birds, apparently about to take their departure. My drawing of the two individuals represented in the Plate was made at St. Augustine, in East Florida, where I procured them on the 2nd December, 1831. I have always found these birds gentle and less shy than any other species of the genus. They fly at a considerable height with rapidity, deviating alternately to either side, and plunge toward the ground in a manner somewhat resembling that of the Solitary Sandpiper. When accidentally surprised, they start with a repeated 'weet,' less sonorous than that of the bird just mentioned. They search for food along the margins of pools, creeks, and rivers, or by the edges of sand bars, and mix with other species."

The Plate represents two birds in the intermediate plumage between summer and winter, of the size of life.



ACTODROMAS MINUTA.

Stimulid & H. Richter, del et lith.

Walter, Imp.

ACTODROMAS MINUTA.

Little Stint.

Tringa minuta, Leisl. Nacht. zu Bechst. Naturg. Deutschl., tom. i. p. 74.

—— *cinclus*, Pall. Zoog. Ross.-Asiat., tom. ii. p. 201.

—— *pusilla*, Wolf et Meyer, Taschenb. Deutschl. Vög., tom. ii. p. 391.

—— *Temminckii*, Koch, Baier. Zool., tom. i. p. 292.

Pelidna minuta, Boie, Isis, 1826, p. 979.

—— *pusilla*, Brehm, Vög. Deutschl., p. 666.

Actodromas minuta, Kaup, Natürl. Syst., p. 55.

ALTHOUGH this pretty species of Sandpiper has been very frequently killed in England and repeatedly in Ireland, its presence can never be looked for with certainty; moreover it does not breed with us; for though specimens occur in the red or nuptial dress, they are merely *en route* to the northern regions to deposit their eggs and rear their little progenies in countries almost unknown to us, the only record I find of their breeding in any place being that mentioned by Dr. David Walker in his "Notes on the Voyage of 'The Fox,'" who says, "The winter of 1858–59 was spent at Port Kennedy, in the mouth of Bellot Straits, 72° 11' N., 94° W. Early in June numbers of *Tringa minuta* and *T. interpres* were found breeding in the marshy valleys." It is indeed most remarkable that (with this exception, if Dr. Walker is correct as to the identity of the species seen by him) the true incubating home of a bird which ranges over Europe, the whole of Africa, Asia Minor, Persia, India, China, and Japan should not have been discovered.

With regard to the connexion of the Little Stint with our avifauna, Mr. Yarrell says:—"The species was first mentioned by Pennant as a British Bird from a specimen killed in Cambridgeshire, and is most frequent on the southern and eastern shores of this country. Indeed, from the eastern localities comprised within the geographical range of this bird, it is probable that it seldom comes so far westward as the British Islands, when on its way, in the spring, to the high northern latitudes in which a portion of them every year produce their young." He then proceeds to mention that the appearance of both old and young birds in autumn in the vicinity of the Solway has several times been recorded, that it has occurred in the western part of Lancashire, that from forty to fifty were seen on the Laira mud-banks near Plymouth in October 1840, that the bird has been frequently observed on the coast of Sussex, that he had obtained them in the London markets in the summer and winter plumage, but most frequently in that of autumn (when, indeed, they are more common than at any other period of the year), that a flock of thirty was seen in Romney Marsh, 1839, and that they are numerous on the coasts of Suffolk, Norfolk, Yorkshire, and Durham, but are not so often killed in the more northern counties. "They are most frequently found on the sandy shores of the sea, and generally in company with the Dunlin or the Sanderling, or both, as they fly in small and sometimes in large flocks together. They select for food aquatic insects, small crustacea, worms, and mollusks."

According to Mr. Rodd it is occasionally seen in Cornwall, and specimens obtained from salt marshes near the sea, Marazion marsh and Hayle estuary.

Neither Sir William Jardine nor MacGillivray met with the bird in Scotland; and although Thompson says it is a regular autumnal visitant to Ireland, it appears there in extremely limited numbers. More recently, however, it has been stated that a specimen was obtained at Fraserburgh in September 1854; and the Rev. F. O. Morris mentions that one was killed by William Strang, Esq., in Orkney in 1837, and another seen by him in 1848.

Temminck says that in its passage it visits the borders of the rivers in Germany and France, and in autumn is to be found on the great marshes of Holland, but rarely on its maritime coasts, that it is very common on the lake of Geneva and occurs in great numbers on the salt marshes of Dalmatia in August and September in the garb of winter, and that those seen on their passage through France are in their perfect nuptial plumage. Nilsson states it is found in Sweden from spring to autumn; but Mr. Dann informed Mr. Yarrell that it is by no means common there, and that the only specimens he met with were in autumn, in the flooded grounds on the banks of rivers and lakes, where, on being approached, they squat down and allow you to advance within a few feet of them. Mr. Selby mentions that he had received specimens in almost perfect plumage from Italy, where it has also been observed by Dr. Henry Giglioli in the neighbourhood of Pisa.

Loche mentions it as a bird of passage in Algeria; and the Zoological Society have received specimens

from Tangiers and Trebizond ; Mr. E. C. Taylor states that it occasionally occurs in small flocks in Egypt ; Dr. Andrew Smith obtained it in South Africa. At Natal, Mr. J. H. Gurney says, it " may be found feeding at low water amongst the mud and weeds in the bay ; it is gregarious and is, I think, only found here in winter ; is occasionally seen in considerable flights on the mud flats and borders of pools in the Transvaal. It is very shy and difficult of approach, and its flight is very rapid. This species has also been obtained by Mr. Andersson at Walvisch Bay ;" according to Mr. C. A. Wright it is very common in Malta in the spring, part of the summer, and in autumn. Lord Lilford says it is rather common in the Ionian Islands " in April and May, particularly on the race-course of Corfu, an excellent locality for birds of many species at various seasons ;" and Lieut. Sperling that about Missolonghi, in Greece, it was rather rare in the early part of December. Specimens were obtained by the Rev. H. B. Tristram in Palestine. Mr. Jerdon informs us that " the Little Stint is very abundant throughout India in winter, associating in large flocks, and feeding on marshy ground, rice-fields, and the edges of tanks and rivers. It is very excellent eating ;" Captain Irby, that in Oudh and Kumaon it is " very common in flocks during the cold season." Mr. Swinhoe enumerates it among the birds observed by him between Takoo and Peking in north China, in his list of the birds of Amoy, and, in his notes on the ornithology of Foochow, says it is seen on the coast in September, chiefly on its way to more southerly regions, to pass up again in March or the commencement of April. In those months it is often found by inland salt marshes with other species of the same and allied forms and the Great Snipe (*Gallinago megala*, Swinh.) ; and, lastly, Mr. H. Whitely states that he observed this bird in small flocks on the sea-shore at Hakodadi, in Japan, in the autumn, and shot two specimens near the end of September.

Meyer says the Little Stint sleeps in the early part of the day, and if approached runs a short distance very quickly and then takes wing, its flight being rapid, but rather unsteady, and with arched wings. It is kept in confinement without difficulty.

Its note is said by one writer to resemble the words *deer-deer*, and by another *stint-stint*, whence perhaps one of its trivial names.

The above desultory notes comprise all I can find recorded respecting this Sandpiper, to which I have only to add that it is represented in America by a species which mainly differs in being of a still smaller size, and in Australia by another which is distinguished from it by having a larger amount of red on the sides of the neck and throat and in having a smaller bill.

In summer the head and neck are rusty red, speckled with black ; the feathers of the back, scapularies, wing-coverts, tertiaries, and upper tail-coverts brownish black, broadly margined with rufous and white ; primaries black, with white shafts ; secondaries similar, but tipped with white ; chin, breast, axillaries, and under surface of the body pure white ; sides of the neck and chest rufous, speckled with black ; irides dark brown ; bill black ; legs, toes, and claws brownish black.

In the autumn all the colours are much paler, and there is a considerable mixture of grey and buffy white on the margins of the feathers of the upper parts of the body.

In winter the grey tint becomes still more conspicuous,—the head and neck being ash-grey, with a darker line down each feather ; the upper surface is very similar ; the primaries and secondaries are in the same state as in autumn ; but the tertiaries become ashy brown with lighter margins, and the tail ashy grey narrowly edged with white.

The figures represent a male and a female, in the dress of summer ; the bird in the distance the plumage of winter or a young bird. The maritime plant is the Sea-holly (*Eryngium maritimum*).

LEIMONITES TEMMINCKII.

Temminck's Stint.

Tringa Temminckii, Leisl. Nacht. zu Bechst. Naturg. Deutschl., tom. i. p. 95.

——— *pusilla*, Lath. Ind. Orn., tom. ii. p. 737.

Pelidna Temminckii, Boie, Isis, 1826, p. 979.

Leimonites Temminckii, Kaup, Natürl. Syst., p. 37.

Actodromus Temmincki, Bonap. Tabl. des Echass. Compt. Rend. de l'Acad. des Sci. tom. xliii. sp. 219.

My especial thanks are due to Mr. Alfred Newton, Mr. Wolley, and Mr. H. E. Dresser for the information they have afforded me respecting the bird here represented. Like the Little Stint (*Actodromas minuta*), it visits the British Islands either singly or in small companies at various periods of the year. To say that it is a regular migrant would be incorrect; for whole seasons may pass without its being seen, while at others it appears in considerable numbers.

It will be noticed that Temminck's and the Little Stints have been figured under two different generic appellations; and their separation is, I think, a very proper one, inasmuch as they not only differ in form but in the situations they each affect,—the former being mostly found on the banks of inland rivers, the sides of large reservoirs, and ponds; while the latter is a more maritime bird, like the Sanderling and Purple Sandpiper. The *Leimonites Temminckii* is somewhat smaller than the *Actodromas minuta*, and more elegant in all its proportions; the predominant colour of its upper surface is olive, while that of its ally is chestnut-red.

The summer home of the present bird is far better known than that of the Little Stint, the late Mr. Wolley, Mr. Newton, and Mr. Dresser having each found its nest in Norway and Lapland; the high fell-meadows of which countries are probably the northern limit of its breeding-localities. With the exception of America, Temminck's Stint may be said to inhabit in summer all the countries bordering the Arctic circle, whence it proceeds, as autumn and winter approach, to the warmer parts of Europe, Africa, Asia Minor, India, and China. In all those countries, as in our own, it is never very plentiful, but occurs sufficiently often to be termed common in each of them.

Numerous instances of the occurrence of this bird in England are on record, specimens having been obtained in Cornwall (where Mr. Rodd says it is occasionally found in the salt marshes near the sea) and here and there along the eastern coast as far north as Yorkshire; occasionally it is met with as near to London as Kingsbury Reservoir, where F. Bond, Esq., has obtained old birds in spring and both old and young in autumn. In Scotland, according to Macgillivray, it has not occurred; but it must be found there. And Thompson says that it has only once been obtained in Ireland, where a single example was seen and shot at a freshwater pool close to the town of Tralee, during a severe frost, in January 1848; but, as in Scotland, it must visit the country more often than is supposed. During its spring and vernal migrations, it is seen in Germany, Holland, France, and Switzerland; and we learn from M. Bailly that it "visits Savoy every year, about the end of September or the first half of October, sometimes not until November or December, and never in very great numbers. Its early or late appearance in the spring seems to depend upon the nature of the season. It generally arrives in flocks, often united with *Tringa variabilis* and *T. minuta*, and immediately resorts to the borders of rivers, lakes, ponds, and marshes, where it mingles with other allied species, and while running along the sand utters sharp cries. It rarely remains long, and often departs on the day of its arrival; if it should appear at night, it is certain to be gone the next morning. It passes the winter in the temperate and warmer countries of Europe, which it leaves at the approach of spring, to breed, it is said, in the north."

Loche says it is a bird of passage in Algeria; Mr. E. C. Taylor that it is occasionally killed in Upper Egypt, but is by no means numerous there; the Rev. H. B. Tristram found it extremely common in Northern Africa in winter; Dr. Adams plentiful about Alexandria and the Delta, but did not see it above Cairo; Mr. C. A. Wright has shot it in Malta, both in the summer and winter plumage; Mr. Jerdon remarks that it is not so numerous in India as the Little Stint; but, on the other hand, Captain Irby mentions that it is very common in flocks, during the cold season, in Oudh and Kumaon; Mr. Swinhoe, who met with it between Takoo and Peking, in North China, says it remains in Foochow all the winter, on the banks of inland pools or fallow paddy-fields, solitary or in small parties, and often in company with *Ægialites philippinus*; in Amoy it is found in small parties, scattered over wet paddy-fields in the cold season, and in Formosa is a common winter visitant to the inland waters and marshes; Captain Blakiston mentions that two were shot in August in Northern Japan.

For the following note respecting this species I am indebted to H. E. Dresser, Esq.:—

“I found Temminck's Stint breeding sparingly amongst the network of islands surrounding the harbour of Uleåborg, and shot several in full breeding-plumage on the 26th of May. They were then still in flocks; and I endeavoured unsuccessfully to find some specimens of *Actodromas minuta* amongst them. I spent the 12th of June on the islands outside of Uleaborg, looking for nests, and found one of this bird on Akkio Island. Both I and the lad who accompanied me saw the old birds as soon as we landed, and at once commenced a regular search for the nest, but did not succeed in finding it until we had carefully gone over the whole of the ground. It was situated near the middle of the island, some twenty or more yards from the shore, and, being placed where the grass was thick, it was not seen until almost trodden upon. It was a mere hollow in the earth, such as might be made by working the large end of a hen's egg in soft soil, with small hay-straws neatly arranged round the inside, and contained four eggs all placed with the pointed end towards the centre. Both birds were very fearless and did not go far from the nest; but every now and then flew up in the air and descended again in circles, fluttering like a skylark, uttering at the same time a peculiar churring sound, which they also emitted while sitting on any elevated place. A favourite perch of one of them was a pole which had been set up for a pilot's mark, but had been broken off about eight feet from the ground; on this the bird would sit for a quarter of an hour at a time, churring all the while, and would allow me to approach within a few feet of it.”

The late Mr. Wolley, writing to Mr. Hewitson, says:—“I have found this species breeding in several localities north of the Bothnian Gulf; but it is scarce, and, as far as I have seen, confined to a few favourite spots. Grassy banks and pastures by the water-side are the kind of places where it takes up its breeding-quarters, and it seems to delight to be near houses. Nothing can be more interesting or pretty than this little bird in the early part of summer; it is so tame that one could often catch it in a net at the end of a stick. At one time it is hovering with its wings raised over its back or floating about, and it reminds one of some insect rather than of any other bird; at another time it may be seen standing on the top of a stone or stake, or the gable end of a cottage; and whether hovering or standing on its perch, it utters a constant trilling note, of which I can best give an idea by saying it brought to my recollection that of the Grasshopper-warbler, though the resemblance is perhaps slight. When its eggs are very near, it sometimes runs about one's feet; and, though it cannot but be anxious, it seems as busy as ever picking gnats and other insects off the grass; one nest I found was a short stone's throw from a cottage where children were playing about in all directions; another was only a pace or two from a spring from which women drew water every day, and passers-by often stopped to drink. The nest is very simple—a few short bits of hay in a little saucer-shaped hollow amongst thin grass or sedge, generally not far from the water's edge, but sometimes in the middle of a meadow. In 1854 the eggs were laid about Midsummer-day.”—*Hewitson's Coloured Illustrations of the Eggs of British Birds*, 3rd edit. vol. ii. p. 362.

The eggs, which are four in number, vary considerably in colour,—one of the two figured by Mr. Hewitson being of a pale or creamy stone-colour, with numerous spots of pinkish or pale purple and reddish brown; the ground-colour of the other is light buff, more numerously blotched and spotted, particularly at the larger end, with purplish and reddish brown, while that I have given is still richer in colour and more deeply spotted.

For my figures of the young I am indebted to Mr. Newton, who informs me that the drawing kindly lent by him was taken with great care from a young bird hatched from the egg by carrying it in a small box inside his shirt for some thirty-six hours.

In summer the feathers of the upper surface are dull olive with dark brown centres and a wash of rufous on the margins of those of the back and axillaries; line from the forehead to the eye greyish-white; primaries dark brown, the shaft of the outer feather white, of the remainder light brown; edge of the secondaries white, forming a line across the wing when spread; tail light brown; chin greyish white; throat and breast greyish brown, with a line of dark brown down the centre of each feather; abdomen and under tail-coverts white; bill olive-black; irides dark brown; legs and feet olive.

In winter the plumage of the upper surface is of a nearly uniform dull olive, the dark marks on the chest are absent, and the sides of the chest washed with dull olive like the back.

The Plate represents two adults, several young birds, and an egg, all of the natural size.



ARQUATELLA MARITIMA.

ARQUATELLA MARITIMA.

Purple Sandpiper.

Tringa maritima, Brünn. Orn. Bor., no. 182.

—— *nigricans*, Mont. Linn. Trans., vol. iv. p. 40, pl. 2.

—— *striata*, Flem. Hist. of Brit. Anim., p. 110.

—— *arquatella*, Pall. Zoog. Rosso-Asiat., tom. ii. p. 190.

—— *Canadensis*, Lath. Ind. Orn., Supp. p. 65.

—— *littoralis*, Brehm, Vög. Deutschl., p. 652.

Totanus maritimus, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 146.

Tringa (Arquatella) maritima, Baird, Cat. of N. Amer. Birds in Mus. Smiths. Inst., p. xlvii. no. 528.

THIS bird, although nowhere very numerous in the British Islands, is nevertheless sufficiently abundant in autumn, winter, and spring to entitle it to be regarded as a common species; it is sometimes met with in flocks, but more often in smaller numbers, in all the rocky parts of our shores, from north to south, from Cornwall to the Orkneys, and apparently evinces no preference for the eastern over the western coasts. It is less numerous in Ireland than in England and Scotland. As the Dunlin loves muddy flats, and the Stint shingly shores, so the Purple Sandpiper delights to be among kelp, sea-weed, and shelving billow-washed beaches; its short tarsi, long stout toes, and short bulky body, as compared with the slender Dunlin, Stint, and other shore-loving Sandpipers, indicate that it differs from them in its mode of life. In confirmation of this induction, I may mention that Mr. Gatcombe, of Plymouth, writes:—"I have observed a peculiar habit in the Purple Sandpiper when feeding on the rocks during rough weather. On seeing a large wave approach, it crouches and holds on the rock, allowing the spray to dash completely over it, and, on the wave receding, rises and displays the greatest activity in picking up its food until another wave compels it to crouch again." At the period the Purple Sandpiper visits us its trivial name is very applicable; for not only does the whole of the upper surface assume a purple tint, but the feathers of the back and rump are tinged with violet: a change of colour, however, is very perceptibly going on before the bird leaves us in spring, and by midsummer its plumage is so metamorphosed as to give it the appearance of a totally different species. From the crown of the head to the lower part of the scapularies all the feathers are edged with chestnut and white, while the purple winter colouring of their centres has given place to brownish black. In this dress, however, it scarcely ever, if ever, appears in the British Islands; but in such a garb it is seen in Iceland, Spitzbergen, Greenland, and probably in the whole of Arctic America; for every voyager who has written on the avifauna of those regions speaks of it as a common summer-resident there. Messrs. Evans and Sturge, who visited Spitzbergen in 1855, say:—"The Purple Sandpiper (*Tringa maritima*, Brünn.) was very abundant in Coal Bay, on the south side of Ice Sound; and we found four of their nests on the high fjeld. Beautiful little nests they were, deep in the ground, and lined with stalks of grass and leaves of the Dwarf Birch (*Betula nana*, L.), containing mostly four eggs, of an olive-green, handsomely mottled with purplish brown, chiefly at the larger end. We watched this little bird with much interest as it waded into some pool of snow-water or ran along the shingle, every now and then raising its wings over its back and exhibiting the delicate tint of the underside, at the same time uttering its loud shrill whistle."—"Ibis," vol. i. p. 171.

Holboëll, in his 'Fauna of Greenland,' says that it breeds throughout that country, that it "disappears from the sea-coast at the beginning of June, and resorts to the tableland on the mountains, where it remains a short time in small flocks, and then goes in pairs to the breeding-places, which, though always at some distance from the sea, are never far inland; it lays four eggs, and is very careful of its young ones." That it also breeds in the Färoe Islands is certain, the late Mr. Wolley having sent thence to Mr. Hewitson eggs from which the old bird was shot, and informed him that it there "breeds sparingly on the very tops of high mountains, where I found its young at the end of June still unable to fly. One pair I remember particularly was in the very midst of a colony of Skuas; they stood upon large stones, in an easy attitude, but evidently watching our movements. From this spot I have now for two years had their eggs."

"Mr. Dann remarks," says Yarrell, "that, unlike the others of this tribe, the Purple Sandpiper does not altogether quit the Scandinavian coast in winter; as the ice accumulates and the sea freezes up, it betakes itself to the outermost range of islands and rocks with which that coast is so numerously studded, feeding among the sea-weed left bare by the slight fall of the tide, on the marine insects which it finds at the edge of the water. I have procured specimens throughout the winter on the Swedish coast, and during very severe frosts. It is perfectly fearless. During windy weather, when not feeding, it seeks shelter in the crevices of the rocks. Its plumage in winter is very thick, and the bird appears much larger than in summer."

Von Baer states that the Purple Sandpiper is one of the eight species of birds found in Nova Zembla; and it is mentioned in each of Sir Edward Parry's Voyages,—in the first, as being abundant in Davis's Strait and Baffin's Bay; in the second, as seen on the rocks at low-water mark on Winter Island in June; in the third, as observed at Port Bowen; and in the fourth, as being very abundant along the shores of Heda Cove; and it was also seen in considerable numbers near Fury Point. Sir John Richardson says it "breeds abundantly on Melville Peninsula and the shores of Hudson's Bay. Its eggs are pyriform, sixteen lines and a half long, and an inch across at their greatest breadth. Their colour is yellowish grey, interspersed with irregular spots of pale hair-brown, crowded at the obtuse end, and rare at the other."

After the breeding-season is over, the Purple Sandpiper leaves Arctic America and proceeds southward. Audubon states that in autumn and winter it is nowhere more abundant than in the neighbourhood of the harbour of Boston, in the market of which city it is sold in great numbers during those seasons. When he was there, a gunner brought him several dozens which he had killed in the course of a single afternoon; he had also seen them in the markets of New York, but remarks that further south they are not met with. At Bodo, on the western coast of Norway, Mr. Percy Godman shot some examples on the 4th of May, and states that the bird was to be seen on the islands in the neighbourhood throughout the summer. Temminck informs us that it is found on the shores of the Baltic, also on those of the Mediterranean, and that it is very common in Holland; but I do not find any other author giving the shores of the Mediterranean as one of its habitats; still we must not discredit the statement, since Mr. F. du Cane Godman has recorded that it is an inhabitant of a country quite as far south as the Azores. "A small flock," says this gentleman, "was usually to be seen in company with some Turnstones, about the rocks, near Santa Cruz, in Flores. I was told that in summer they are frequently seen upon the rough pasture-land high up in the mountains. The people say they go there to feed in hot weather; but I suspect they breed there as well, since a lad at Santa Cruz told me he had shot very young birds; no one, however, that I met with could give me any information about their nesting-habits. The only specimen I procured was a male in full summer plumage, shot in June." That the bird breeds in Iceland is certain; for Mr. Alfred Newton has placed in my hands a chick labelled as having been obtained by him in that country on the 16th of July, 1858; and in his 'Notes on the Ornithology of Iceland,' he says, it is "common everywhere in the neighbourhood of the coast, and occasionally to be seen inland, where it also breeds. According to Faber, a resident. Hatches its eggs about the middle of June. Great numbers are shot about Reykjavik in spring, and are sold for the table."

It is said to turn over stones to search for insects among the sea-weed, it also eats small shrimps, sand-hoppers, and little mollusks.

As is the case with most of the Sandpipers, little or no difference is observable in the colouring of the sexes; but they would seem to differ considerably in size; for, upon dissecting a number of specimens, the larger birds proved to be invariably females.

In winter, the head and all the upper surface are dark purplish brown, with a narrow edging of grey at the top of the back and scapulary feathers; wings dark brown, each feather margined with greyish white; primaries with white shafts and a fine edging of white at the tip; central tail-feathers dark purplish brown; the lateral feathers pale brown, with white shafts and margins; eye surrounded by a nearly perfect circle of white, an obscure line of greyish white from the bill to the eye; throat also white; chest purplish brown, the lower feathers crescented with white at the tip; the remainder of the undersurface greyish white, with a patch of light purplish brown in the centre of each feather; bill orange at the base, black at the tip; irides black; legs and feet orange.

A summer specimen, from Greenland, has the feathers of the back and scapularies margined with deep fawn or light chestnut, the markings of white about the face and neck less apparent, and the flanks conspicuously streaked with light brown.

In another, from Wellington Channel, the margins of the back and scapularies are mingled fawn and white, the sides of the neck and throat are striated with brown, and the markings on the chest assume a spotted appearance.

The chick is dark brown, marbled with fawn-colour and grey above, and is greyish white beneath.

The front figure represents the bird in the winter plumage; those in the distance have nearly assumed their summer dress; but it must, of course, be understood that both states are not to be found at the same time.



LINNICOLA PYGMAEA.

J. Gould & H.C. Richter, del et lith.

Walter, Imp.

LIMICOLA PYGMÆA.

Broad-billed Sandpiper.

Numenius pygmæus, Lath. Ind. Orn., vol. ii. p. 713.

——— *pusillus*, Bechst. Naturg. Deutschl., tom. iv. p. 152.

Tringa platyrhyncha, Temm. Man. d'Orn., 2nd edit., tom. ii. p. 616.

——— *eloriodes*, Vieill. Nouv. Dict. d'Hist. Nat., tom. xxxiv. p. 465.

——— *pygmæa*, Savi, Orn. Tosc., tom. ii. p. 291.

Limicola pygmæa, Koch, Baier. Zool., tom. i. p. 315.

Pelidna platyrhyncha, Cuv., Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 50.

THE bird now under consideration is not a regular migrant, and hence it must be classed among our accidental visitors. On the Continent it is more common, dwelling in its southern portions during winter, and retiring in summer to Norway, Sweden, and Lapland, to breed and rear its young. Of all the Sandpipers it is probably the one which approaches most nearly to the *Scolopacidæ*; and although quite distinct in structure from the little Jack Snipe, it strongly reminds us of that bird, in its small size and general contour, and also in some of its habits. M. Godefroy Lunel, Conservator of the Museum of the Academy of Geneva, has published, in the first volume of the 'Bulletin de la Société Ornithologique Suisse,' a very carefully written account of its peculiarities, which is too lengthy for entire transcription, but from which I shall venture to give a translation of the less technical portion.

"The broad-billed Sandpiper appears in the environs of Montpellier every year during the earlier part of August, when a few isolated individuals are captured in the nets laid by the bird-catchers in the neighbourhood of the marshes. By their means I have had opportunities of examining numerous specimens, both dead and living, and of making myself acquainted with the remarkable structure of the beak, whence it obtained one of its specific names. It is soft and flexible throughout its entire length, depressed and slightly bent towards the point, with a lateral furrow extending nearly to the tip of each mandible. The two branches of the inferior maxillary are completely ossified in their anterior third, and are contiguous for the remainder of their length, but not united. The skin of the chin, which embraces the base of the beak and the triangle formed by the bifurcation of the base of the lower mandible, is square at the top of the throat, devoid of feathers, and forms a small pouch, which may be contracted by the bird at pleasure; it is of a reddish ash-colour during life, but becomes yellowish and wrinkled after death. It is small in young birds, but appears to increase in size as they advance in age."

I find only three instances recorded of the bird's appearance in our Islands, namely, two in England, and one in Ireland. The first of the English specimens was killed on the muddy flats of Breydon Broad, in Norfolk, on the 25th of May, 1836; the second, near Shoreham, in Sussex, in October, 1845. The Irish example was killed on the oozy banks of Belfast Bay, on the 4th of October, 1844, with eleven Golden Plovers and seven or eight Dunlins, at one shot from a swivel-gun.

The late Mr. Wheelwright says:—"Till within the last few years the Broad-billed Sandpiper appears to have been entirely overlooked in Sweden; but I do not think it is so very rare there. Twelve years ago I shot three specimens in August, in the very south of the country; since then I have shot the bird in Wermland; and now I have taken the nest in Luleå, Lapland. Of all the Sandpipers this certainly is the most unobtrusive and the shiest in its habits; and its custom of creeping among the grass, like a little mouse, causes it to be very seldom seen. When flushed, which is never until you nearly tread upon it, it rises with a faint single call-note, flies for a very little distance, then suddenly drops; and it is next to impossible to get it up a second time without a dog. I only found one nest, in a high-fell meadow."

Mr. Dann informed Mr. Yarrell that "this Sandpiper is by no means uncommon during the breeding-season in Luleå, and Tornea Lapmark, frequenting grassy morasses and swamps, in small colonies, generally in the same places as those frequented by the Wood-Sandpiper. It breeds also at Fogstuen, on the Dovrefjeld mountains (about three thousand feet above the level of the sea), in Norway, where it arrives at the latter end of May. On its first appearance it is wild and shy, and similar in its habits to the other species of the genus, feeding on the grassy borders of the small pools and lakes in the morasses; on being disturbed it soars to a great height in the air, rising and falling suddenly like the Snipe, uttering the notes *too whee*, which are rapidly repeated. As the weather becomes warm its habits totally change—skulking and creeping through the dead grass, and allowing itself to be followed within a few yards, and, when flushed, dropping again a short distance off. It seems to lay its eggs later than others of this tribe generally do. I found some not sat upon on the 24th of June; and the last week in July the young were unable to fly—a period when all the other Sandpipers are on the move south. Its nest, like that of the

Snipe, was on a hummocky tuft of grass, . . . Although I found the young only half fledged the last week in July, and hunted the morasses very carefully, I never flushed or saw a single old bird; yet undoubtedly they must have been there; so difficult is it at that period to get them on the wing, and so entirely different from their habits in the spring. They are said by Nilsson to be rare visitants to Scandinavia; they are, however, numerously dispersed, but from their small size and hiding habits are difficult to be discovered, added to the almost impassable nature of the swamps they frequent. There were several small colonies of them in different parts of the extensive swamp at Fögstuen; I procured five specimens there, and might have obtained as many more, had I desired it. I also procured one nest with four eggs in it."

The following notes were communicated to Mr. Hewitson by the late Mr. John Wolley:—

"The Broad-billed Sandpiper differs from other wading birds in the situation of its nest: choosing open soft places in the marsh, where there is little else than bog-moss, with a light growth of a kind of sedge, and on a low tuft just rising above the water, its nest may be found often without difficulty . . . But it must not be supposed that this kind of bird-nesting is very easy work. The marshes where the Broad-billed Sandpiper is to be found are few and far between; they are soft and full of water, and often every step is a struggle; while the swarms of hungry gnats require almost individual attention. The sun is scorching at midday, but at midnight has not enough power to keep away an unpleasant chill. The country to be gone over is of vast extent, the egg-season very short; sleep is seldom attainable, a feverish feeling comes on, and present enjoyment soon ceases.

"It is about the third week in June or just before midsummer, when the thickest clouds of gnats rise from the water which is so generally spread over the recently thawed land, that the Broad-billed Sandpiper lays its eggs. Many empty nests are found for one that is occupied; and these I suppose to be nests of former years; for the moss in which they are usually worked, long retains any marks made in it, being hard frozen for more than half the year. They are neatly rounded hollows, and have a few bits of grass at the bottom. The bird sometimes flies and sometimes runs off her eggs, and, if she has sat for a day or two, will come back even whilst men are standing all round. The eggs are usually very deeply and richly coloured when fresh, but they fade sadly soon after they are blown. As Swedish ornithologists consider the Broad-billed Sandpiper to be an accidental visitor to their country, I suppose its breeding-grounds to be confined to this far northern region."

Mr. Hewitson has figured two eggs selected from a numerous series by Mr. Wolley as characteristic of those of the species, and remarks that they "bear no resemblance whatever, except in shape, to the eggs of any of the Sandpipers with which we are acquainted, and in their singular colouring are unlike the eggs of any other bird." They are represented of a chocolate-red, largely blotched and freckled with a darker tint of the same colour, particularly on the larger half; in one these markings are more sharply defined and on a lighter surface than in the other. One measures rather more than an inch and an eighth in length by seven eighths in breadth; the other, which is somewhat more pyriform, one inch and a quarter by seven eighths.

Mr. Jerdon informs us that this bird is tolerably common towards the north of India, but is rare in the south, and that it abounds more on the sea-coasts and on tidal rivers than far inland.

Mr. Swinhoe mentions that, at Foochow, this and several allied species are seen on the coast in September, chiefly on their way to more southerly regions, to pass up again in March, or in the beginning of April, and are often found in those months by inland salt marshes. In Formosa, flocks were frequently met on the south-west shores, in September. Most of those he procured were in partial summer-plumage, with more or less freckled breasts.

In summer, the prevailing tint of the upper surface is blackish brown, interrupted on the head and occiput by two obscure longitudinal narrow bands of sandy brown, and by the margins of the feathers on the body and wings being margined with mingled dull white and buff; over the eye a broad stripe of greyish white, below which, between the bill and eye, is a narrow one of black; greater wing-coverts and secondaries edged with white; primaries blackish brown, with white shafts; lengthened tertiaries, margined with rufous; two central tail-feathers blackish brown, margined externally at the tip with rufous; the remainder light greyish brown, narrowly edged with white, and having white shafts; chin greyish white; sides of the neck, breast, and flanks dark, or blackish brown, each feather margined with greyish white and tawny, giving a spotted appearance; abdomen and under tail-coverts white, each feather of the latter with an oblong mark of brown near the tip; bill black, becoming reddish at the base; gular pouch reddish flesh-colour; irides brown; legs and feet olive.

In winter the general tint is ashy grey, all the feathers being largely margined with that colour, and the dark centres of the feathers of the sides of the neck, breast, and flanks assume the form of small striæ.

The Plate represents two birds in summer-, and one in winter-plumage. The lichen is the *Peltidea canina*, formerly believed to be a cure for hydrophobia.



MACRORAMPHUS GRISEUS.

J. Gould & W. Hart del et lith.

W. L. G. imp.

MACRORHAMPHUS GRISEUS.

Red-breasted or Brown Snipe.

Scolopax grisea, Gmel. edit. Linn. Syst. Nat., tom. i. p. 658 (1788).

——— *noveboracensis*, Gmel. ibid., tom. i. p. 658.

——— *Paykullii*, Nilss. Orn. Suec., tom. ii. p. 106.

Totanus noveboracensis, Sab. in Frankl. Journ. App., p. 687.

Macrorhamphus griseus, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 31 (1816).

Scolopax leucophæa, Vieillot, Nouv. Dict. d'Hist. Nat., tom. iii. p. 358 (nec Latham).

MR. HARTING has favoured me with the following communication respecting the Red-breasted or Brown Snipe :—"At least fifteen instances have been recorded of the occurrence of this bird in Great Britain (for particulars see my 'Handbook of British Birds,' p. 144). Of these, ten specimens were killed in autumn, when scarcely any trace could be seen of the beautiful rufous colouring which marks the breeding-plumage." Some of these occurrences are indicated by Mr. Harting in the following order:—One, Devonshire, 1801, Mont. Orn. Dict.; one, Devonshire, Moore, Mag. Nat. Hist. 1837, p. 320; one, near Carlisle, 25th Sept. 1835; one, Yarmouth, autumn, 1836, Stevenson's 'Birds of Norfolk,' vol. ii. p. 348; one, Yarmouth, Oct. 1841, in the collection of Mr. J. H. Gurney; one, Hornsey, Norfolk, Oct. 9th, 1845; one, Point of Ayr, Isle of Man, 1847, Zoologist, 1856, p. 5251; one, on the Thames near Battersea, Harting, 'Birds of Middlesex,' in the collection of F. Bond, Esq.; one, Scilly, Oct. 1857, Rodd, Zoologist, 1857; one, Kingsbridge, Devon, 1857; one, sands near Banff, Sept. 1858; one, on the Brent, Middlesex, Oct. 1862, in Mr. Harting's collection; one, Dumbarnie Links, Sept. 1867, Gray's 'Birds of Western Scotland,' p. 314; and one on the Clyde, R. Gray, Ibis, 1870, p. 292. Thus it will be seen that individuals of the *Macrorhamphus griseus* have been seen and shot in various parts of our islands from the days of Montagu to the present period; and doubtless, as time rolls on, similar visits will be repeated. Still all such individuals must be regarded as mere casual visitors which have probably been blown out of their course during their autumnal migrations in their native country, America.

From the commencement of the present work it has been a question with me how far we are justified in calling such American wanderers British Birds; and I should not have included them had I not been aware that I should be censured for not doing so by many of my subscribers, who consider that any of those that have appeared in such popular works as those of Selby, Yarrell, &c. should have a place in the present publication; and it is a deference to their opinion which must plead my excuse for figuring many birds from foreign countries which have merely paid solitary visits to our shores.

Perhaps in the whole range of ornithology there is not a more singular form than the present bird. Structurally it is closely allied to the true Snipes, while in its colouring and in the seasonal changes of plumage to which it is subject it is as nearly related to the Sandpiper. As might naturally be expected, its habits and economy are intermediate, resembling those of both groups, as the following notes, principally taken from transatlantic authors who have the bird constantly before them, will show.

First, however, let me speak of the range of this species. The Red-breasted Snipe may be said to inhabit the whole of North America, summering and breeding as far as the Arctic circle, and returning south at the opposite season to Texas, Mexico, and even to the Pacific coasts of Guatemala, as shown by Mr. Salvin, who states in his notes that he saw specimens in that country in 1863 (*vide* Ibis, 1865):—"Another common wader frequenting the sandbanks was the Brown Snipe, *Macrorhamphus griseus*. I used always to see it feeding in the open, where there was no cover whatever, its habits strongly contrasting in this respect with those of the Common Snipe, to which it is closely allied. This bird and the European Woodcock, *Scolopax rusticola*, seem to represent two extremes as regards choice of feeding-ground, the true Snipes occupying an intermediate place."

"This bird," says Wilson, "has a considerable resemblance to the Common Snipe, not only in its general form, size, and colour, but likewise in the excellence of its flesh, which is in high estimation. It differs, however, greatly from the Common Snipe in its manners and in many other peculiarities, a few of which, as far as I have myself observed, may be sketched as follows:—

The Red-breasted Snipe arrives on the sea-coast of New Jersey early in April; is seldom or never seen inland; early in May it proceeds to the north to breed, and returns by the latter part of July or beginning of August. During its stay here it flies in flocks, sometimes very high, and has then a loud and shrill whistle, making many evolutions over the marshes—forming, dividing, and reuniting. They sometimes

settle in such numbers, and so close together, that eighty-five have been shot at one discharge of a musket. They spring from the marshes with a loud twirling whistle, generally rising high and making several circuitous manœuvres in the air before they descend. They frequent the sand-bars and mud-flats at low water in search of food; and being less suspicious of a boat than of a person on shore are easily approached by this medium and shot down in great numbers. They usually keep by themselves, being very numerous, are in excellent order for the table in September, and on the approach of winter retire to the south. I have frequently amused myself with the various actions of these birds. They fly very rapidly, sometimes wheeling, coursing, and doubling along the surface of the marshes, then shooting high in air, there separating and forming in various bodies, uttering a kind of quivering whistle. Among many which I opened in May were several females that had very little rufous below their back, were also much lighter, and less marbled with ferruginous. The eggs contained in their ovaries were some of them as large as garden-peas."

The above passage is extracted from Sir William Jardine's edition of Wilson's 'American Ornithology,' vol. ii. p. 337, where will be found the following note by the learned Editor:—

"This bird will stand in the rank of a subgenus. It was first indicated by Leach in the 'Catalogue to the British Museum,' under the title of *Macrorhamphus griseus*. It is one of those beautifully connecting forms which it is impossible to place without giving a situation to themselves, and intimately connects the Snipes with *Totanus* and *Limosa*. The bill is truly that of *Scolopax*, while the plumage and changes ally it to the other genera; from these blending characters it has been termed *Limosa scolopacea* by Say, who gave the characters of the form without applying the name."

Audubon, in his 'Ornithological Biography' (vol. iv. p. 287), says:—"The flight of this bird is rapid, strong, and remarkably well sustained. When rising in large numbers, which they usually do simultaneously, they crowd together, are apt to launch upwards in the air for a while, and, after performing several evolutions in contrary directions, glide towards the ground, and wend their way close to it until, finding a suitable place, they alight in a very compact body, and stand for a moment. Sometimes, as if alarmed, they recommence their meandering flight, and after a while return to the same spot, alighting in the same manner. Then is the time when the gunner may carry havoc amongst them; but in two or three minutes they separate and search for food, when you must either put them up to have a good shot, or wait the arrival of another flock at the same place, which often happens; for these birds seldom suffer any of their species to pass without sending them a note of invitation. It is not at all uncommon to shoot twenty or thirty of them at once. I have been present when 127 were killed by discharging three barrels, and have heard of many dozens having been procured at a shot. When wounded and brought to the water, they try in vain to dive, and on reaching the nearest part of the shore they usually run a few steps and squat among the grass, when it becomes difficult to find them. Those which have escaped unhurt often remain looking after their dead companions, sometimes waiting until shot at a second time. When they are fat, they afford good eating; but their flesh is at no time so savoury as that of the common American Snipe."

In Swainson and Richardson's 'Fauna Boreali-Americana,' p. 398, it is stated:—"This bird is well known in the fen-countries, and has an extensive breeding-range from the borders of Lake Superior to the Arctic Sea. In the breeding-season, the whole under-plumage is buff-coloured, approaching to ferruginous, in which state it has not hitherto been described. Individuals killed on the Saskatchewan plains had their crops filled with leeches and fragments of coleoptera. The *Scolopax noveboracensis* forms a link between the Snipes and Godwits, having the bill of the former and the feet of the latter."

The principal figure in the accompanying Plate represents this bird in full summer dress, the reduced figure one in a state of change.



SCOLOPAX RUSTICOLA, Linn.

SCOLOPAX RUSTICOLA, *Linn.*

Woodcock.

Scolopax rusticola, Linn. Faun. Suec., p. 60.

——— *major*, Leach, Syst. Cat. of Spec. of Indig. Mamm. and Birds in Brit. Mus., p. 31.

——— *pinetorum*, Brehm, Vög. Deutschl., p. 613, pl. 32. fig. 3.

——— *sylvestris*, Brehm, ibid., p. 614.

Rusticola vulgaris, Vieill. Nouv. Dict. d'Hist. Nat., tom. iii. p. 348.

——— *sylvestris*, Macgill. Man. of Nat. Hist. Orn., vol. ii. p. 105.

THE principal summer home of the Woodcock is the northern portion of the Old World; and so widely is it spread over those parts of the globe that it is to be met with from eastern Siberia to the western extremity of Europe. There the main body of the Woodcocks lay their eggs and rear their young; and thence, when nature prompts them so to do, they migrate in a southern direction, those of Kamtschatka probably resorting to Japan, those frequenting Mongolia to China, and those which have bred in western Siberia and Thibet proceeding to the mountainous districts of Burmah, India, Affghanistan, and Persia. It must therefore be the Woodcocks that summer in Norway, Sweden, Finland, and Russia which spread over the British Islands, continental Europe, Palestine, and North Africa. The bird also breeds yearly in the Madeiras, and, according to Mr. Frederick Godman, in the Azores. It has also once occurred in Newfoundland.

Now, although I have spoken of the Woodcock as an inhabitant of the north, there is not, I believe, a county in the central portion of England, or any part of Scotland or Ireland, in which it does not yearly breed in considerable abundance; these, however, are but few when compared with the great numbers which resort for this purpose to the countries above alluded to.

It is well known that the impulse which periodically stimulates a species to change its position is equally strong, whether the bird be in confinement or at large; a Turtledove in a cage, or a Cuckoo brought up by hand, each will destroy itself by dashing its head against the roof of its prison at the period when its fellows depart for other climes; and, I believe, the Woodcocks which are bred in England and Scotland are prompted to leave their native woods, as the Snipes do the fells, and to proceed southward when the proper season arrives, like those whose breeding-quarters lie further north. All our native-bred birds, however, may not leave the British islands; and I think it probable that the flights which appear yearly in Cornwall and the Scilly Islands may be a portion of them. These flights, which are said to arrive from the east, might go out to sea from our south coast and, if they encounter adverse winds, double back upon Cornwall and Scilly. If this be not the case, I cannot account for their occurrence at the early period at which they are said to arrive. Mr. Rodd states that they make their first appearance in the neighbourhood of the Land's End about the second week of October, and the first flights usually take place with a south-east wind; and Mr. Augustus Smith has furnished me with a precisely similar account of the arrival of the bird on the Scilly Islands.

I need not recapitulate the hundreds of recorded instances of the bird's breeding in England, Scotland, and Ireland; but in confirmation of the fact I may state that I have myself several times received young birds from localities in the counties of Middlesex, Surrey, and Kent, as near to London as Caen Wood, at Highgate, on the north, and Streatham Common on the south. The Marquis Camden tells me that at least a dozen nests have been found during a single season in his woods in Sussex.

The late Mr. St. John states, in his 'Tour in Sutherlandshire,' that "the Woodcock breeds every season in the north of Scotland, not only in the large fir-plantations, but also in the smaller patches of birch &c. which fringe the shores of many of the most northern lakes. That those bred in the country migrate, I have no doubt, as they all invariably disappear for two or three months between summer and the first frosts of winter. As I have seen their nests at all times from March to August, it is natural to suppose that the Woodcock breeds more than once in the season."

Mr. Atholl MacGregor writes me word that Mr. White, the head keeper on Lord Mansfield's estate in Scotland, says "that all the under keepers can testify to Woodcocks breeding in every wood, and that one of them states that between thirty and forty remained in the covers under his charge during the months of April and May 1864, and that the greater number of them bred. Mr. White adds that in a short walk on the 23rd of July he flushed three couples, and that his own impression is that they breed two or three times in the summer, he having seen broods in the same stage of plumage both in May and August. When the month of August or September is dry, many of the birds leave; but he thinks they do not go out of the country."

The late Mr. Thompson, after recording, in his 'Natural History of Ireland,' numerous instances of the birds breeding in that country, remarks, "In the years 1847, 1848, and 1849, Woodcocks bred abundantly in Tollymore Park, not less than thirty nests having been seen each year; and they have now become so common-place as to be comparatively but little noticed."

With all this testimony as to the bird's breeding in various parts of the British Islands, does it not become necessary that we should bestow upon it all the protection in our power? and should not the Legislature lend its aid towards this end? Are we not all alike interested in the preservation of so fine a bird? Would it not be more rational to do so than to pay so much attention to the introduction of foreign species, with a view to their acclimatization, with far less likelihood of any good result? Nay, are we not "killing the goose that lays the golden egg" when every scamp who can borrow a gun is permitted to shoot these birds in their evening flights, or "roadings," during the months of March and April? I sincerely trust that, if this bird be not hereafter reckoned among the species designated game, it may be deemed advisable to pass a law inflicting a heavy penalty for every Woodcock killed between the 1st of February and the 12th of August. Were ordinary protection afforded to the bird, I see no reason why it should not become vastly more numerous than it is at present. Every sportsman is aware that during the last fortnight in January the Woodcocks are found in pairs—mated in fact for the coming task of reproduction—that its skin is then scurfy, its flesh strong, very inferior in flavour, and comparatively unfit for the table.

I now come to a part of the history of the Woodcock, which has been a stumbling-block to all sportsmen and ornithologists—whether there be any outward difference in the plumage by which the sexes may with certainty be determined, and why so much variation occurs in their size, weight, and measurements. To these points I have paid much attention during a long life, and with a view to their elucidation have carefully examined hundreds of examples killed by others, as well as those that have fallen to my own gun, which have not been few. Many of these I have dissected, measured, and weighed the moment after they were killed; and I must admit that at the end of a day's shooting I am still unable to say with certainty, from their size or plumage, which are males and which females: this partly arises from the circumstance of there being two distinct races frequently intermingled in the same coverts. Such races occur among many of our birds, but have no specific value. During their vernal migration these races generally keep separate from each other, and some flights will be composed of a small red race, while others will be exclusively large dark-grey birds. In the case of the common Snipe, I have ascertained that the male is undoubtedly the larger bird; and if there be any difference between the sexes of the Woodcock, I believe it will be the same as in that bird; at the same time I must remark that dissection has proved that many of the large and long-billed birds are females. Some sportsmen assert that they can distinguish the sexes by an examination of the outer primary, and affirm that those birds which have the external margin of that feather plain or devoid of tooth-like markings are males, and those in which they exist are females. But they are absent in both sexes of very old birds; for I have wings of females in my collection in which the outer margin of the first primary is totally devoid of the toothed character. When the young Woodcock assumes his first primaries, which he does at the age of two or three weeks, the outer feather is strongly marked; as he grows older this feature gradually disappears; and I have frequently seen specimens with the outer primary toothed for half its length, and the other part plain.

Some English counties are less adapted to the habits of the Woodcock than others; and their continuance in those best suited to them depends greatly upon the non-disturbance of the coverts in which they have settled themselves, from the date of their arrival in November to the end of the shooting-season. Inclement and frosty weather will induce the birds to remove from one locality to another, and even to quit a district; but they will again return at the first favourable opportunity. In the charming park at Chillingham in Northumberland, Woodcocks are sufficiently numerous in the early part of the season to satisfy its noble and excellent owner; I believe, however, the bags are never very extraordinary; still thirty or forty Cocks may sometimes be laid upon the grass at the end of a November day's shooting; at least, so I was told by the Earl of Tankerville during a pleasant visit I paid to his border Castle. The number of Cocks at Hawkstone varies considerably, twenty or thirty being generally the result of a day's sport when the covers are shot. To this beautiful seat I have for the last thirty years been most kindly favoured with an invitation, to shoot over some of the best beats; and I would here express my obligations to Lord Hill for his unvaried kindness. As an evidence that Norfolk, so abundantly supplied with game, is not wanting in coverts favourable to the Woodcock, I shall quote a line from the 'Zoologist,' in which it is stated, that in Lord Hastings's woods at Melton Constable, near Holt, in the first week of December 1852, 30 and 33 were respectively killed on two successive days, and 93 on the third, in the Great Wood in the adjoining parish of Swanton Novers, and at least 110 might have been killed if other game had been disregarded. I believe it will be conceded that from this county, through the eastern and southern portions of England, the Woodcock becomes less numerous, and it is not until we reach the western counties of Devonshire and Cornwall that we again meet with it in any great abundance. In these humid and comparatively warm districts the Woodcocks find a congenial winter home; for there the springs are always

flowing, the fields green, and the fallows rarely frozen, however severe the winter may be elsewhere. Still such large bags are seldom obtained as are made in other parts of England, Wales, and Ireland—the reason being that the woods are not so extensive, and the coverts, where large, so dense that no man with a gun can penetrate them. If the Cocks are got to rise, they pitch again without breaking cover ; not so, however, in some parts of Cornwall, for there many charming little rushy bottoms exist, across which a Cock may be killed at the widest part. It is here that the bird suffers, and it is in such little winding gullies between the hills that I have found some of the pleasantest Cock-shooting I have ever had. Now, although the bags made in Cornwall contain fewer birds at the end of the day than in some other counties, the deficiency is not due to the birds being less numerous, but to their favourite woods and gullies being often more inaccessible to the beaters ; so difficult to traverse, indeed, are they, that I question if any but a Cornish man would survive a second day's toil, if he were not irrecoverably lost among the high tussocky grasses during the first. Such severe work for men I have never witnessed ; and dogs appear to be useless ; hence in a county so frequently intersected with localities of this description as Cornwall is, a great number of Cocks live in a comparatively small area. At Tregothnan the covers are seldom shot until January ; and as they remain in a state of quietude during the other eleven months of the year, the shooting is then most enjoyable. On some of his twenty beats Lord Falmouth frequently shows his friends more than a hundred rises in a day. The Cocks killed, however, seldom amount to more than thirty ; when to these are added three or four times as many wild-bred Pheasants, a fair sprinkling of Snipes and ground-game, with now and then a Teal and a Mallard, sufficient sport is afforded to gratify the appetite of every man who may consider himself a sportsman.

In Wales the Cock-shooting approaches somewhat that of Cornwall ; but the ground is more stony, and the walking consequently more difficult. Here the little cocker spaniels are more generally used ; for the dog beats the man in rounding the boulder stones on the hillsides, and easily threads the thorny thickets through which the beater cannot get. In Scotland heathy valleys, fir- and larch-plantations take the place of the sedgy, boggy bottoms of Cornwall and the thorny hillsides of Wales ; there and in the Western Islands Woodcocks afford less sport than in the counties further south. Here in the north it is the Grouse and black game which demand the attention of the sportsman, who scarcely cares to raise his gun at the Woodcock. Ireland, on the other hand, is a country especially adapted for the bird to winter in ; and to give an account of the sport enjoyed there would fill many folio pages ; but as I have said a few words on Cock-shooting in England and Scotland, I cannot omit stating that the Muckcross party in January 1863, consisting of Captain Herbert, Lord Elcho, Mr. Balfour, General Grey, and Colonel Long, killed 908, the average number of guns during ten of these days being four ; on the ninth, 110 were counted from the bag at the end of the day.

The following table gives the weight and the length of wing, from the shoulder or carpal joint to the tip of the first primary, of twelve male and twelve female mature Woodcocks from various parts of the country, taken without any particular selection, and is given to show the comparative weight and size of the sexes :—

MALE.					FEMALE.				
	Length from carpal joint to end of first primary.	Extent of outspread wings.	Weight.	Locality.		Length from carpal joint to end of first primary.	Extent of outspread wings.	Weight.	Locality.
	inches.	inches.	ounces.			inches.		ounces.	
1	7 ⁵ / ₈	23	12 ¹ / ₄	Tregothnan, Jan.	1	7 ¹ / ₈		10 ¹ / ₂	Jardine Hall, Nov. Tregothnan.
2	7 ⁷ / ₈		12	Tregothnan, Jan.	2	7 ¹ / ₄		10 ¹ / ₄	
3	7 ⁵ / ₈	23	12 ³ / ₄	Somerleyton, Dec.	3	6 ⁵ / ₈	Small race.	9 ³ / ₄	
		Length from tip of bill to end of tail 13 ¹ / ₄ inches.							
4	7 ¹ / ₂		12 ³ / ₄	Somerleyton, Dec.	4	7 ³ / ₈		11 ³ / ₄	Tregothnan.
5	7 ³ / ₄		13 ¹ / ₂	Somerleyton, Dec.	5	7 ⁵ / ₈	23 inches.	12 ³ / ₄	Tregothnan.
6	7 ³ / ₈		12 ¹ / ₄	Tregothnan, Jan.	6	6 ⁷ / ₈		11 ¹ / ₂	Somerleyton.
7	7 ¹ / ₄		12	Jardine Hall, Nov.	7	7 ³ / ₈		10 ¹ / ₂	
8	7 ³ / ₈		12	Jardine Hall.	8	7 ³ / ₈		11 ³ / ₄	Tregothnan, Jan.
9	7 ³ / ₈		11 ³ / ₄	Tregothnan, Jan.	9	7 ³ / ₈		10 ¹ / ₄	Tregothnan, Jan. 14.
10	7 ³ / ₈		11 ³ / ₄	Tregothnan, Jan.	10	7 ³ / ₈		11	
11	7	Very fat bird, small race.	10 ³ / ₄	Unknown.	11	7 ¹ / ₄		11 ¹ / ₄	Tregothnan, Jan.
12	6 ⁷ / ₈	Small race.	9	Unknown.	12	7 ³ / ₈	23 inches.	13 ¹ / ₂	Tregothnan, Jan.; a very long bill, length 3 inches; plumage very light.
	89		142 ³ / ₄			87 ¹ / ₄		135	

It will be seen that the wings of the 12 males, measured as above stated, amount to 89 inches, and their weight to 142³/₄ ounces, while the wings of the females are 87¹/₄ inches, and their weight 135 ounces ; consequently that the excess of the length of the wing in the 12 males is 1³/₄ inches, and of their weight 7³/₄ ounces. I believe the males have generally the shorter bill, the longer wing, and the finer tail, while the rump of this sex is more red and the barrings of the under surface of the body more distinct ; much difference also

occurs in the colouring of the legs of the Woodcocks, some being olive- or leaden-white, while others are pale-yellow. In these and other investigations, I have to acknowledge much valuable assistance from my young friend, Mr. Evelyn Boscawen, who took great interest in the subject during our shootings at Tregothnan. To enumerate the numbers I have placed in the scale is unnecessary; but I may state that the weight of seventy out of eighty birds in fair condition will range between 11 and 14 ounces; of the other ten some will be lighter, and others heavier. Light birds vary from 9 to $9\frac{1}{2}$ and 10 ounces. It is a very large cock that weighs 15 ounces, and an extraordinary one that turns the scale with a 16-ounce weight at the opposite end of the balance. I am told that the occurrence of much heavier birds has been recorded; and W. Christy Horsfall, Esq., of Leeds, informed Mr. Buckland that he has a large light-coloured female which he got at Halifax, in Yorkshire, in 1861, and which weighed, two days after it was killed, a little over 20 ounces; I can only say that a bird of this weight I have never seen.

The Woodcock is strictly nocturnal, frequenting marshes, the oozy beds of rivers, and open fields during the night, and retiring to dry hillsides and copses in the daytime. In such situations, if left unmolested, it sleeps under the shelter of a holly, or at the edge of the sunny side of a glade; and so lethargic is it that it may almost be trodden upon before it will rise, and when it does take wing soon pitches again; it will not, however, allow its heels to be trodden upon a second time, still less a third, and if followed up will rise and double back to the spot from which it was first flushed. I believe Mr. Selby has observed that the first flights are females, and that the sexes are not associated in autumn. Not so, however, in the spring; for in January the birds are paired, and when one is flushed another is almost certain to be found within a few yards.

The nest is very slight, a small depression in the ground filled with a few dead leaves and stems of grasses. Its situation varies with the nature of the country in which the bird breeds: in Scotland it is placed among the heather; in the commons near London in furze-brakes; in the woods of Kent and Sussex near the stem of a tree, on the sides of banks, often among the primroses and bluebells, with the strain of the nightingale above to solace the female during the task of incubation. The eggs are generally four in number, and of large size in comparison with that of the bird; they do not vary much, but have none of the pear-shaped form common to the other members of the family Scolopacidæ, and are sometimes remarkable for their roundness of form; they are of a cream or yellowish white, blotched with pale reddish brown, particularly at the larger end. The young during the first week of their existence are beautiful little creatures, being adorned, as will be seen on reference to the accompanying plate, with a number of well-defined markings of buff and chestnut; this gaily coloured downy dress soon gives place to feathers, which closely resemble those of the adult. The chicks remain in the neighbourhood of the nest for a little time; but the parents unquestionably remove them to the marsh in the evening, there feed and nurture them until the rising of the sun, and then carry them back to their accustomed place in the woods. This act need not be questioned, neither does it require confirmation; for the young have been seen dangling from the claws of the old birds during their passage from the wood to the feeding-ground at least a hundred times, and by as many different persons. The food of the Woodcock consists of worms and grubs, of which, particularly the former, it eats enormous quantities; Mr. Selby states that a flowerpot full will scarcely suffice a bird in confinement for a single night. For procuring this kind of food in a state of nature its long bill is admirably adapted; with it the bird is in the habit of probing the ground up to its nostrils; and the borings thus made may be frequently seen in wet and sloppy places.

We know that the Great Snipe will occasionally cover itself with moss &c. for the purpose of concealment, as represented in my plate of the species; and it would seem that the Woodcock also resorts to this practice for the like purpose; for Captain Murray Aynsley informs me that when beating the covers at Alnwick, in Northumberland, about the end of November, he saw a Cock pitch within eight yards of him on the opposite side of a fence where the ground was bare of everything except a few leaves; on alighting, the bird first looked round, then flattened himself on the ground and commenced covering himself with the leaves, taking them in his bill and throwing them over his back until it was more than half covered; on hearing the beaters approach, the bird applied himself still more closely to the ground, laying the bill straight out on the surface, and allowed the beaters to pass within three or four feet; but on a dog showing himself over an adjoining bank, he lifted and rose immediately: this bird had doubtless been flushed before.

The Plate represents a female and young of the natural size, and a reduced figure of a male in the distance; the principal plant is the Wild Hyacinth, *Endymion nutans*.



GALLINAGO MAJOR.

Walter & Cohen, Imp.

London and W. D. Colver del. et lith.

GALLINAGO MAJOR.

Great Snipe.

Scolopax major, Gmel. edit. Linn. Syst. Nat., tom. i. p. 661.

——— *media*, Frisch, Vög., tab. 228.

Gallinago major, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 51, pl. 8.

——— *Montagui*, Bonap. Geogr. and Comp. List of the Birds of Eur. and N. Am., p. 52.

Scolopax palustris, Pall.

——— *paludosa*, Retz.

——— *gallinacea*, Dumont.

Telmatias major, Blas. List of the Birds of Eur., Engl. edit. p. 19.

Scolopax leucurus, Swains. and Rich. Faun. Bor.-Am., vol. ii. p. 501.

HOWEVER numerous this species may be on the European continent, England is not the country in which it regularly breeds, or to which it pays its visits with any degree of certainty. Our islands are out of its line of migration; and hence those which occasionally occur must be regarded as individuals which have deviated from their regular course, and therefore come under the denomination of accidental visitors. Still the Great Snipe is far from being a scarce bird, and an autumn seldom passes without specimens being shot by sportsmen and others. I have several times purchased the bird in our great poultry-market in Leadenhall Street, and I advise any of my readers not to let the chance slip, if a similar opportunity should offer itself to them; for, in an epicurean sense, a greater treat than a roasted, fat Double Snipe of the year can scarcely be enjoyed; and when I tell them that its weight is eight and sometimes nine ounces, they will readily imagine that such a Snipe is a *bonne bouche* of no ordinary kind. Nearly all the examples that have come under my notice have been birds of the year, and in this youthful state they differ very considerably in plumage from the adult, killed in spring. The four outer tail-feathers in the young are crossed with strong zigzag bars of brown, whereas in the adult they are snow-white, with square blotches of black on the external margin near the base; hence the broad white tips of the outer tail-feathers show very conspicuously in the old birds, as also do the several semicircular bands across the wings, formed by the white tippings of the secondaries and wing-coverts. The breeding-individuals further differ from autumn-killed young birds, by the stronger markings of black on every part of the under surface of the body.

Montagu's specimens now in the British Museum, and to which the name of *Montagui* was given by Prince Charles Bonaparte, are young birds of this species. The *Scolopax leucurus* of Swainson, said to have been received from Hudson's Bay (a statement which I think is very questionable), is the present bird in its adult livery.

In its habits and disposition the Great Snipe differs very much from the common species, *Gallinago scolopacinus*; it is not so reclusé and shy; and it is not gregarious, never being seen in such large flocks. When it rises, it flies heavily, and soon pitches again; in a word, it lacks the sprightliness and spirit of the Common Snipe; for it has not the quick turning and dashing flight of that species, which rises high in the air and makes a survey of the heavens before it descends to the ground again. I have stated that the Great Snipe must be regarded as an accidental visitor to our islands. The low swampy grounds of Brabant, Friesland, and Hanover, and the wet moorlands of Norway and Sweden, are probably the nurseries whence it comes. Independently of these places, it is found during summer in all parts of Northern Russia and Western Siberia, which it leaves in autumn for Asia Minor, while those that have been bred further west proceed to Africa, some great flights stopping by the way, in the Pontine Marshes around Rome and similar situations.

I am indebted to Mr. Percy Godman for the skin of a young bird only a few days old, which, when compared with the young of the Common Snipe at the same age, presents some remarkable differences. First, the hair-like feathers which cover the body are longer, the general tint is lighter, and the markings of the head and back are much less complicated and not so pretty; in a word, the young Double Snipe approaches as much to the general appearance and markings of the Woodcock of the same age as to the Common Snipe. Mr. Godman also gave me some information, which he has since published, relative to an artifice adopted by the female of this species to prevent the discovery of her nest:—

“On walking across the open part of the marsh at the back of the village of Bodö, in Norway, on the 26th of May, we flushed the first Great Snipe. This bird had evidently only just arrived, and did not fly more than a few yards before it settled again. Whenever else we observed this species, it was amongst the brushwood on the borders of the marsh. A few days after, on pushing our way

over some swampy ground covered with birchwood and dwarf willow on the edge of the marsh, our attention was attracted by an unknown note of a bird on the ground, somewhat resembling the smack of the tongue, repeated several times in succession. On remaining still for a few seconds, we saw several Great Snipes walking about and feeding within a few yards of us: we watched them for some time, but they did not appear to take the smallest notice of us.

“About the 10th of June we began to search for their nests, but did not succeed in finding any until the 24th, nearly a month after the arrival of the birds. The first nest we found contained four eggs, and was placed on the edge of a small hillock, quite open, though there were birch-trees growing all round, and one on the hillock on which the nest was situated. It consisted of nothing more than a hole scraped in the moss, in which the eggs were deposited; there was neither grass nor leaves in it. The next day (June 25th) we found another nest, within 200 yards of the former, containing only two eggs. It was situated on a small hillock, in much the same sort of place as the former. We found another nest on the 27th. The bird fluttered off and ran away, dragging its wings on the ground, and making a sort of drumming noise. After taking four eggs from this nest, we went to look at that found on the 25th, containing two eggs, and were surprised at seeing nothing in its place but some apparently disturbed moss. Our first impression was that the eggs had been destroyed by the Magpies or Crows that were constantly hunting for such food, or perhaps taken and eaten by the many boys who wander about the marsh tending cattle; but on beginning to express our fears, the bird, doubtless frightened by our voices, flew up, leaving a hole in the moss through which we could see there were only two eggs as before. Not doubting that the bird would yet lay more, we again left it, and, on returning to the spot in a couple of days, observed the nest was again covered with moss. This time we remained for a minute before the bird flew off; and on stooping down to examine it more closely, we could distinctly see the bird's back through the moss. The bird had evidently, after it was comfortably seated in its nest, torn up with its long beak the moss that was within its reach, and drawn it over its back till it was completely covered: there was not the least appearance of any hole through which the bird could have crept into its nest. This circumstance of the nest being covered is the more curious, as, out of six found, it was the only one thus carefully concealed. There were as many as ten or fifteen pairs of these birds in the marsh, which usually kept pretty close together, and were generally to be found in one particular spot. Could this have been a congregation of male birds, the mates of which were breeding in the vicinity? We saw the bird occasionally on swamps in the mountains; but it would have been a hopeless task to have searched for its nest there, though we have little doubt it breeds in other localities in the neighbourhood.” (Ibis, vol. iii. p. 87.)

The artifice above described is very singular, particularly as it tends to confirm an anecdote told to me by a gentleman upon whose veracity I can rely, to the effect that he had noticed a similar propensity in the Woodcock. We know that all the Grebes cover their eggs to hide them from observation, and there can be but little doubt that the Titlark crosses her nest with grasses for the same purpose; some birds place upright feathers at the entrance of their dome-shaped nests; and the Brambling often sits with two or three feathers curling over her back, as I myself observed on the Doverfeld in Norway.

Mr. Dann informed Mr. Yarrell that during the pairing-season the Great Snipe flies to a vast height, and, as it descends, makes a drumming noise by means of a slight and peculiar vibration of the wings. Mr. Selby and others have remarked that it utters no cry when flushed. Mr. Hoy informed Mr. Hewitson that “there is no doubt that by far the greater number of the Great Snipe retire to the swamps of the north to breed; still a considerable number are spread over the fens and morasses of Holland. The Great Snipe very much resembles the Jack Snipe in its habits, lying close, and, when disturbed, rarely flying far. The eggs are four in number, of a yellowish olive-brown, spotted with two tints of reddish brown, and are one inch and nine lines in length by one inch and two lines in breadth.”

The young in the downy state, or when about two or three days old, have the colouring of the head and face similar to but more buffy than in the adult, the line down the centre of the head absent, the upper surface mottled with buff chestnut and black, the under surface buff on the breast and flanks and greyish in the middle of the abdomen, and some undefined black marks on the throat. At this age they differ from the young of *G. scolopacinus* in being very much lighter coloured, and in exhibiting none of the rich chestnut tints so conspicuous in that bird.

The Plate represents the male of the natural size, and the female nearly concealed by the moss and herbage which she has thrown over her back.



GALLINAGO SCOLOPACINUS.

GALLINAGO SCOLOPACINA.

Common Snipe.

Scolopax Gallinago, Linn. Syst. Nat., tom. i. p. 244.

——— *uniclavatus*, Hodgs. Journ. Asiat. Soc. Beng., 1837, p. 492.

——— *Sabini*, Vig. in Linn. Trans., vol. xiv. p. 556, pl. 31.

——— (*Ascalopax*) *Gallinago*, Schrenck, Reis. und Forsch. im Amurlande, Band i. p. 421.

Gallinago media, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 54; Gray and Mitch. Gen. of Birds, vol. iii. p. 583,
Gallinago, sp. 2.

——— *scolopacinus*, Bonap. Geog. and Comp. List of the Birds of Eur. and N. Am., p. 52.

——— *Brehmii*, Kaup.

Telmatias gallinago, Blas. List of Birds of Eur., Engl. edit., p. 19.

So much has been written respecting the habits and economy of this highly esteemed bird, that to say anything new on these points would be almost impossible. Mr. Selby must ever take the first rank among living writers on those of our native birds which are of especial interest to sportsmen; and accordingly much information with regard to this species may be found in his 'British Ornithology.' Thompson and Macgillivray have also both left behind them abundant notes relative to it. My own remarks will take a wider field; for I shall give some account of the range of the bird in other countries, and of the varieties which occasionally occur. Although the Snipe is strictly an indigenous bird, vast accessions to those bred in England and Ireland annually occur—great flights arriving from Norway and Sweden in the month of November, and spreading themselves over every part of the British Islands, from north to south and from east to west. In Ireland, owing to the greater amount of boggy and undrained land, the bird is even more abundant than in England. It is an inhabitant of all parts of Europe, Iceland, Greenland, a great part of Africa, the whole of Asia Minor, western and northern India, China and Japan: it is enumerated in the list of the birds of the Amoor, and it is doubtless spread over the whole of Siberia.

The *Gallinago Brehmii* of Kaup must, I think, rank as a synonym of our bird, since the principal difference consists in an elongation of the outer tail-feathers, which I believe to be characteristic of one or other of the old birds in the breeding-season; and the *Scolopax Sabini* of Vigors should be placed in the same category; for, notwithstanding the dark colouring of the specimens to which that name has been applied, and the difference in some of their markings, ornithologists now consider them to be merely a black variety; still this extraordinary departure from the normal colouring of the plumage is very puzzling, and specimens in this state must always be regarded with interest: the last example which occurred in England was shot by Brydges Willyams, Esq., of Nan's Kavel in Cornwall, in 1861, and is now in the possession of that gentleman.

Every ornithologist must have experienced great difficulty in finding good specific characters for the various members of this group of birds, some of the foreign species being most closely allied; this difficulty, however, does not exist with regard to the three which inhabit England, for no birds can be more different. A Snipe, however, is every now and then found in our markets, which on comparison with the *Gallinago scolopacina* is found to differ, being redder in colour and weighing six ounces. So far as I am aware, this bird has not yet received a specific name; and, after all, it may be only a variety; still it is a matter which requires close attention. Mr. Rodd says, in the 'Zoologist,' p. 4704, "For some years past I have occasionally met with a Snipe in this neighbourhood, which I strongly suspect to be distinct from the common one, and not hitherto described. I think the first was in 1834. Some five or six examples have since come under my notice; and I may remark that the size of the new bird is longer and more bulky than the Common Snipe. The whole of the tints of the upper plumage, both as to the rufous and buff markings, are darker, and the dorsal stripes are much narrower, and appear altogether more obscure than in the *Scolopax scolopacinus*. There is also more rufous about the head and shoulders, and the under parts are more darkly clouded, with the flanks much more striated, and the belly less silvery white. All the specimens that I have seen correspond with each other; they all appear larger than the Common Snipe, but, like that bird, have fourteen tail-feathers. Mr. Vingoe has been looking out for specimens during this hard winter (1854–55), and succeeded in shooting one, which, he says, rose without any noise, and without any companions." "I have lately examined," says Mr. Gatcombe ('Zoologist,' p. 7938), "two examples of the large brown variety of Snipe, so accurately described by Mr. Rodd. One of these, killed at Dartmoor, in December last (1861), quite equalled in size some specimens of *S. major*, but differed from that species in having the belly white, and only fourteen feathers in the tail. The general markings were

very similar to those of the ordinary-sized Common Snipe, but the plumage was altogether of a more ruddy cast, and the light stripes on the scapularies were narrower and much less conspicuous. The bill and the tarsi especially appear very short when compared with the large size of the body. All sportsmen who have killed the bird remark that it rises without noise."

If these birds should ultimately prove to belong to a distinct species, I would propose for it the scientific appellation of *Gallinago russata*, and the trivial one of Russet Snipe, in allusion to its rufous colouring.

To add my mite of recommendation of the Snipe as a bird for the table would be superfluous, since it is very generally agreed that it is second to none of our British birds in this respect. As an object of sport, no bird is more highly esteemed; for where is the sportsman who would not walk a great distance for a chance shot at a Snipe?

I have mentioned above that the Snipe is a resident species; by this I mean that it breeds with us. It will be necessary, however, to enumerate some of the places, and the character of the localities, which it frequents; and this may be done in a few words. In every swampy situation covered with rushes and rank herbage, on Dartmoor, Exmoor, in the New Forest, the edges of Frencham and other ponds on the great commons near Farnham in Surrey, Bagshot Heath, and all suitable localities in Derbyshire and Wales, a hundred places in the north of England, and every part of Scotland and Ireland, if sufficiently quiet and undisturbed, this bird may be heard bleating in the month of March. In April the female engaged in incubating her four large eggs, may be found; and by the end of the month the young are hatched. The figures of the young in the accompanying Plate were drawn from specimens sent to me alive by Sir John H. Crewe, from one of his estates in Derbyshire, and were forwarded with so much care that they reached London in safety; by this means I was enabled to give a correct representation of them, which I could not otherwise have done, for these delicate little creatures begin to decompose from the moment of their death. Besides the young, Sir John Crewe's head keeper, Mr. W. Turner, sent me the parent birds also alive; and the accompanying illustration may therefore be considered as complete as any I have yet published. I was very much puzzled by the peculiar grey colouring which pervaded the throat and sides of the face of these breeding birds. Thinking this might be due to some extraneous cause, such as a peculiarity in the soil or water of the neighbourhood where the bird had been incubating, I wrote to Mr. Turner on the subject. In reply he says, "I observe that a marked difference in the colouring of the Snipe takes place soon after they begin to breed. The bright colours about the head and under the throat, with which it is decorated in winter, give place in summer to a dirty ash-colour. I do not think it is due to the birds feeding on peat land; for we have many which breed where there is no peat, and I observe that all present the same appearance at this season of the year." This is not in accordance with my own observations, for I have not seen them thus coloured from any other locality. The young, as will be seen by my figures, are as rich in their colours as they are fantastical in their markings; even in this downy and youthful state, the young Snipes sprawl about among the herbage with considerable activity. It will also be seen that the nest is a very slight affair, composed of grasses, delicate shreds of rushes, &c., placed in a small tuft of grass in the middle of a swamp.

A considerable controversy has been carried on respecting the manner in which the "bleating" of the Snipe is produced, some persons being of opinion that it is due to the resistance offered to the air by the stiff and curved outer feather of the tail while the bird is rapidly descending; but this has not been very satisfactorily ascertained. On this part of the bird's economy I extract the following note from an interesting little volume by the Rev. J. C. Atkinson, entitled 'British Birds' Eggs and Nests.' Speaking of the Snipe, this gentleman says:—"It is a bird, moreover, which is quite sure to make it very distinctly known that it has a nest and eggs somewhere near, if any human visitor appears on the scene. I refer to the very peculiar note or sound emitted by the male, always while he is on the wing high in the air, and always accompanied with a very remarkable action of his wings and curving descent in his flight. This sound or note (for it is not absolutely certain, I think, how it is produced) is variously called humming, bleating, drumming, buzzing. To me, the first time I heard it, and before I knew to what origin to assign it, the impression produced was precisely that of a large bee, entangled in some particular place and unable to extricate itself; and I remember spending some minutes in trying to discover the supposed insect. The eggs are usually four, placed in a very slight and inartificial nest on the ground near some tuft of rushes or other water-herbage. They are of a greenish-olive hue, blotched and spotted with two or three shades of brown, the deepest being very dark. The old ones are said to be very jealous and careful of their young."

The Plate represents a male, a female, four young birds, and a nest, all of the natural size.



LYMINOCRYPTES GALLINULA.

J. Gould and H. C. Richter del. lith.

Wiley. imp.

LYMNOCRYPTES GALLINULA.

Jack Snipe.

Scolopax Gallinula, Linn. Syst. Nat., tom. i. p. 244.

Gallinago minima, Ray, Syn., 105. A 3.

——— *minor*, Briss. Orn., tom. v. p. 303, pl. 26. fig. 2.

——— *gallinula*, Bonap. Geogr. and Comp. List of Birds of Eur. and N. Amer., p. 52.

Lymnocryptes gallinula, Kaup.

Philolimnos gallinula, *stagnatilis*, et *minor*, Brehm, Handb. der Naturg. aller Vög. Deutschl., pp. 623, 624.

To the sportsman this little Snipe is ever an object of interest; for it seldom rises from the marsh without attracting his immediate attention. The Pheasant is permitted to wait his convenience, or the Partridge is given the chance of escape until the little Jack is again flushed from the bed of flags into which he has just dropped. Why is it that so small an object (for its weight is not more than two ounces) commands so much anxious regard? For the simple reasons that it is a migrant, that it is second to no bird for the table, and that it is somewhat difficult to shoot. The Jack Snipe exhibits many peculiarities, and differs considerably from its allies, both in its form and in its mode of life. It is more secluded in its habits, is less easily raised from the ground, and seems to depend for safety more on the harmony of its colouring with that of the surrounding herbage than on its powers of flight. When it does take wing, it usually settles again within a hundred yards, and never mounts and circles in the air like the common species, from which it also differs in never uttering the well-known *scape-scape*. It sometimes lies so close as to admit of its being trodden upon; and when the sportsman goes quickly to the place in which he has marked his bird, it cannot be seen, despite the most searching scrutiny—the bird all the while being perchance at his heel, or half covered with the leaf of a flag or some other plant with which its plumage blends in colour. How beautiful are its iridescent tints! what lovely hues of purple, green, and buff! how harmoniously are they arranged! If an artist wish to see them in perfection, he must accompany the sportsman to the field or the morass; for they fade as the life of the bird ebbs away.

I have stated that the Jack Snipe is a migrant; for it is only in autumn, winter, and the early part of spring that it is with us. In the summer it departs to breed in northern lands, mostly to those parts of Norway, Sweden, Finland, and Russia which lie within the arctic circle. In England, Scotland, and Ireland I have received no reliable information of its having bred, though we now and then find solitary birds in summer. The numbers which are frequently seen late in the spring are only apt to mislead the observer; they all quit this country before the beginning of June, which is soon enough to enable them to arrive at their breeding-quarters by the time the snows have melted. Mr. Smither, who lives on one of the great heaths near Farnham in Surrey, wrote me, on the 9th of May 1861, "We have many Jack Snipe with us at present, and I have great hopes some will stop and nest;" but as I never heard that they did so, I conclude that the flight soon after departed to countries more to their liking. Why they should not find a congenial summer home, as they do a winter one, around the great ponds of Frenchem and the soppy depressions overrun with flags and herbage of the extensive moors in that neighbourhood, I am unable to say. The Common Snipe breeds there; and why the Jack Snipe does not I cannot tell my readers, any more than I can say why some of the tens of thousands of Bramblings, which are now (March 25, 1865) to be seen at Stoke, Cliveden, and Dropmore, in Buckinghamshire, do not, like the Chaffinch, stay and breed with us. It is the habit of this little Snipe to go to the extensive morasses of Lapland for this purpose; but as certain as he goes, it is equally certain that he will return. In August a few may again be seen, in September more; in October, at the full of the moon, great flights will arrive and take possession of all suitable situations in the British Islands, and will there remain if not dispersed or killed. To give an account of the "great bags" of this bird that have been shot in a day would answer no purpose; but when we remember the wholesale slaughter that annually takes place in England and nearly every part of Ireland, it is evident that its numbers must be doubled or trebled every year in some countries unknown to us, or it would long since have been extinct.

There is but little external difference in the appearance of the sexes, one style of plumage being common to both. When the bird arrives in autumn, it is generally clean-moulted and in very fine trim; some have very beautiful purple rumps, while in others the same part is mottled brown. I at one time thought that these were sexual distinctions; but I have not been able to satisfy myself that they are so, though I am certain that some of the birds with purple rumps are females. This variation in the colouring requires more attention from ornithologists than I have been able to give to it. It is just possible that the mottled-brown colouring of the rump may be a characteristic of the young birds of the year.

As yet I have only spoken of the Jack Snipe as an inhabitant of Britain and the northern countries of Europe. I may now state that it is also found in Asia Minor, Persia, and India, from one end of the peninsula to the other; but Schrenck did not meet with it on the Amoor, nor Mr. Swinhoe in China.

In specimens from all these localities, distant though they be, no visible difference occurs in the plumage. A Jack Snipe from India is the veritable bird of our own island.

The only certain information we have respecting the breeding of this species is that which was supplied to the last edition of Mr. Hewitson's work by the late Mr. John Wolley. The following is an extract from the account he gives:—

“It was on the 17th of June, 1853, in the great marsh of Muonioniska, that I first heard the Jack-Snipe, though at the time I could not at all guess what it was—an extraordinary sound, unlike anything I had heard before; I could not tell from what direction it came, and it filled me with curious surprise: my Finnish interpreter thought it was a Capercally, and at that time I could not contradict him; but I soon found that it was a small bird gliding at a wild pace, and at a great height over the marsh. I know not how better to describe the noise than by likening it to the cantering of a horse in the distance over a hard hollow road; it came in fours, with a similar cadence, and a like clear yet hollow sound. The same day we found a nest which seemed to be of a kind unknown to me. The next morning I went to Kharto Uoma with a number of beaters; I kept them, as well as I could, in line, myself in the middle, my Swedish travelling companion on one side and the Finn talker on the other. Whenever a bird was put off its eggs, the man who saw it was to pass on the word, and the whole line was to stand while I went to examine the eggs and take them at once, or observe the bearings of the spot for another visit, as might be necessary. We had not been many hours in the marsh before I saw a bird get up, and marked it down. . . . The nest was found. A sight of the eggs, as they lay untouched, raised my expectations to the highest pitch. I went to the spot where I had marked the bird, put it up again, and again saw it, after a short low flight, drop suddenly into cover. I fired, and in a minute had in my hand a true Jack Snipe, the undoubted parent of the nest of eggs! In the course of the day and night, I found three more nests, and examined the birds of each. One allowed me to touch it with my hand before it rose, and another only got up when my foot was within 6 inches of it. It was very fortunate that I was enabled to identify so fine a series of eggs, for they differ considerably from one another. I was never afterwards able to see a nest myself, though I beat through numbers of swamps; several with eggs, mostly hard sat upon, were found by people cutting hay in boggy places in July. The nest of the 17th, and the four of the 18th of June, were all alike in structure, made loosely of little pieces of grass and *Equisetum*, not at all woven together, with a few old leaves of the dwarf birch, placed in a dry sedgy or grassy spot close to a more open swamp.”

To this Mr. Hewitson adds, “were not the eggs verified beyond a doubt, no one would credit that a bird of dimensions not much larger than a Skylark could produce them, or, having produced them, could keep them warm. They are precisely of the same length as those of the Common Snipe, but are not so wide at the broadest part. The bird weighs about two ounces; the four eggs more than an ounce and a half: thus the eggs of the Jack Snipe weigh nearly as much as the bird itself.”

All this has reference to that tract of Central Lapland which was so laboriously explored by Mr. Wolley. Further to the south and west the Jack Snipe does not seem to breed; at least Mr. Wheelwright never met with it in the neighbourhood of Quickiock: but in an easterly direction it is probable that its summer range may be much more extended; and it has been asserted to breed near St. Petersburg. Middendorf met with it on the Boganida, first noticing its arrival towards the end of June.

Mr. Alfred Newton tells me that the eggs of this species, of which he possesses a large series, are subject to very great variations both in size and colouring. Some are hardly to be distinguished from those of the Common Snipe, whilst others again greatly resemble those of the Broad-billed Sandpiper. The same gentleman has also submitted to me some sketches of the nestling birds, which he executed during his stay at Muonioniska. They differ considerably from the young of the Common Snipe, being of a very much richer brown colour, but mottled with lighter tints and white after a somewhat similar fashion.

As it is always of interest to quote any notes respecting our birds as seen in India, I annex the following remarks on this species from Mr. Jerdon's Birds of that country:—“The Jack Snipe is generally diffused throughout India, preferring thicker coverts than the Common Snipe, lying very close, and difficult to find. Now and then considerable numbers will be met with; in other places it is rarely seen. It makes its appearance later than the Common Snipe, and departs earlier, breeding in the northern parts of Europe and Asia.”

The figures are of the natural size. The elegant little white-flowered bog-plant is the *Parnassia palustris*.



PHALAROPUS FULICARIUS ,
Summer plumage.

PHALAROPUS FULICARIUS.

Grey Phalarope.

Tringa fulicaria, Linn. Syst. Nat., tom. i. p. 249.

——— *lobata*, Linn. Faun. Suec., p. 64.

——— *glacialis*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 675.

Crymophilus rufus, Vieill. Nouv. Dict. d'Hist. Nat., tom. viii. p. 521.

Phalaropus lobatus et *glacialis*, Lath. Ind. Orn., tom. ii. p. 776.

——— *griseus*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 34.

——— *platyrhynchos*, Temm. Man. d'Orn., 1st edit. p. 459.

——— *fulicarius*, Bonap. Geogr. and Comp. List of Birds of Eur. and N. Amer., p. 54.

——— *rufescens*, Keys. & Blas. Wirbelth. Eur., p. 73.

——— *rufus*, Bechst. Naturg. Deutschl., tom. iv. p. 381.

THE accompanying Plate will give that portion of my readers who may not be intimately acquainted with this Phalarope a better idea of the bird than the most minute verbal description. It has obtained its trivial name of Grey from the circumstance of its being most commonly in its light winter dress when seen in this country, a costume widely different from that of spring and summer, represented on the annexed illustration. That the bird should be subject to so great a transformation is indeed astonishing; but so it is, and, this being the case, it would have been quite as appropriate to call it the Red as the Grey Phalarope; a trivial name, however, which has become universal cannot well be altered, or surely the summer or finest state of plumage ought to be indicated in its common designation rather than the grey and unattractive one of winter.

After these remarks on the name of this interesting species, I commence its history by asking, Of what country is it a native? and shall proceed to give all the information I have been able to collect respecting its habits and economy. Its true domicile is clearly not the British Islands; neither does it pass the summer or breed to the southward of the arctic circle, except on rare occasions. Is it not, then, a native of that portion of our globe which has hitherto defied the energies of civilized man to penetrate, the extreme north, within that great belt of congelation of which we have as yet only reached the outer edge, probably amid open waters studded with islands which afford congenial summer homes to many other birds whose true breeding-grounds yet remain to be discovered (the Rosy Gull of Ross, the Sanderling, Grey Plover, &c.)? Whoever may have the good fortune to lift this veil of mystery will, I believe, see the breeding-country of several of our winter migrants. For if there be not such an asylum for these birds in the high northern regions, I know not whither they can betake themselves for the performance of the duty of reproduction. The Grey Phalarope is said to breed in Iceland and Greenland, and on the North Georgian and Melville Islands. Spitzbergen and Nova Zembla have also been enumerated as among its breeding-places; but all that could be produced in these localities would not be sufficient to form the great number of individuals that resort to countries further south during the period of winter, or for the vast flights that every now and then are seen passing over Europe, Asia, and America. To England its visits are uncertain, and when it does come it is generally in small numbers; but I am prepared to show that vast flights of these fairy-like birds do now and then arrive. Fairy-like, indeed, are these little travellers; for the delicate white and grey colouring of their feathers, the tameness of their disposition, their elegant mode of flight, and chaff-like buoyancy as they topple on the waters like a reversed feather from a Swan's breast, justifies such a comparison. The extreme tameness they display is alone sufficient to tell us that they have come from a country where man, not being a denizen, has neither impressed them with fear, nor disturbed them in their breeding-quarters. They seem to have arrived from some blissful elysium where peace and quietude reign, and now for the first time to meet with their greatest enemy and certain destroyer. Mr. Gatcombe informs me that a few Grey Phalaropes visit the coast of Devonshire almost every year, and may be found, if looked for, during the autumnal equinoxes, swimming in an elegant and graceful manner amid the patches of foam and weed collected just outside the breakers, nimbly searching for food, nodding their heads, and wheeling about like feathers on the water. At such times they are exceedingly regardless of man, and, if shot at and missed, will often give only a little spring in the air, and then resume their feeding as if nothing had happened. Some years ago an immense flight of these birds appeared on the coasts of Devon and Cornwall, filling the bays and inlets all along the shore, and at times were seen in flocks running about the grass on the low cliffs like Sandpipers. A few were noticed on inland ponds and all kinds of strange places. So numerous were they in Plymouth Sound, that near the entrance of the Catwater I saw a man shooting them with an old rusty musket, and cramming his pockets full; upon asking what he

intended doing with so many, he replied, "They make capital pies!" I could have killed any number, but contented myself with obtaining sufficient to supply my numerous ornithological friends. This great flight appeared in October, and many of the old birds retained traces of the plumage of the preceding summer. The first time a great number of Phalaropes were observed at Plymouth was about thirty-five years ago, when a dead whale was brought into the Sound, to which circumstance their appearance was attributed; but as the occurrence took place in autumn, it is probable the whale had nothing to do with it.

To give all the instances on record of the capture of this bird in England would be as superfluous as it is impossible to say on what particular day or in which week of the year a living bird may be seen on our coast or inland waters; for its appearance is governed by circumstances unknown to us. And, indeed, the Grey Phalarope must be regarded as an accidental visitor, as a bird which may perhaps be met with at the Land's End, on the coast of Norfolk, on the Thames, the Ribble, or the Humber, or a sheet of water in a nobleman's park, or a large reservoir (like that at Kingsbury in Middlesex), or on a horse-pond by the roadside, any day during the seasons of autumn and winter. Its appearance in Ireland and Scotland is precisely similar, as it also is in all parts of the continent, and all the northern portions of the globe from the latitude of the Mediterranean; further south than this it seldom proceeds, and necessity alone impels it to wander thus far from its true home. Rarely, if ever, is it seen in this country in its red or nuptial dress; but traces of its assumption have been seen in the few examples killed in spring, and traces of its remains in those shot in autumn, as mentioned by Mr. Gatcombe.

There are two or three circumstances connected with this bird which are very remarkable. In the first place, the female is both larger in size, and in summer is more gaily attired than the male—a difference which is shown in the accompanying Plate, where the bird figured in the act of flying, represents a female, and that on the water a male; in the next, I am informed by Professor Steenstrup, of Copenhagen, that the duty of incubation appears to be performed by the male only—a circumstance which appears to be confirmed by the bare state in which the breasts of specimens of that sex are often found. We know that this duty is executed by the male Rheas and Emus; and it is stated that the male Turnices, which are also smaller than the females, hatch the eggs and take charge of the young exclusively; but that such a habit should prevail with the Phalaropes is a singular anomaly.

Mr. Newton, in his valuable Notes on the Birds of Iceland, published in Baring-Gould's 'Iceland, its Scenes and Sagas,' says, "This bird has been but seldom observed by strangers in Iceland, yet in 1858 I found it was very well known to the natives in the district where Faber had seen it in 1821. On the 21st of June in that year he obtained a pair which were swimming in a flock of the commoner species (*Lobipes hyperboreus*). The female contained largely developed eggs. On the following day he found a single pair near the same locality, but searched in vain for their nest. Finally he met with a family party some miles to the eastward. In 1858 I discovered two pairs on a lake in the same district; but a few days afterwards they had disappeared, and they certainly did not remain to breed there that year. Last summer, a friend of mine sent me four eggs as those of this bird, which had been taken under his special superintendence. Setting aside the excellent authority on which their identification rests, they are so entirely different from any other Icelandic bird's I know, that I can hardly doubt their genuineness."

In his notes on the birds in Spitzbergen, Mr. Newton says, "Although met with in various localities, from the extreme south to the extreme north, and doubtless breeding in many places, the exact spots selected are still unknown to us. Dr. Malmgren was as unsuccessful in his first voyage as myself. Last year the skipper of a Swedish exploring vessel found a nest with four eggs up the North Fjord of the Sound, at the beginning of July. The contents he put in his cap; but as he was deer-stalking at the time, he forgot the treasures he was carrying, and they were all smashed. Later in the month Professor Dunér found a nest, with three fresh eggs, in Bell Sound. They lay on the ground, which consisted of small splinters of stone, without any bedding. They are now at Stockholm. Neither of the parent birds was observed near the nest. Dr. Malmgren noticed this species as far north as lat. 80° 10'. He states it feeds chiefly on a species of *Nostoc*; but the stomachs of those I dissected on Russö contained many gnats and their larvæ.

"Mr. Holboëll says that it is the latest of all the Greenland birds, and does not arrive till the beginning of June, at which time it may be seen in large flocks in Davis Straits. In his voyage to Greenland, in 1835, whilst shut up in the ice for eighteen days, he saw this bird swimming about among the blocks of ice. In South Greenland it is rarely seen, and then only in its migration southward. In North Greenland it is very common, and builds its nest there on nearly all the islands possessing small ponds. Whilst the Red-necked Phalarope always resorts to those islands which are within the fjords, this species as constantly breeds upon those only which are outside the coast. In August the young ones are fledged, and in September they are seen in company with the old birds, all in their winter clothing, swimming about the outermost islands, where they seek out the bays, and delight very much in playing about in the broken water."

The front figures are of the natural size. The plant is the *Ranunculus fluvialis*.



PHALAROPUS FULICARIUS,

J. Gould & H. C. Richter, del. et lith.

Winter plumage.

Water, Imp.



LOBIPES HYPERBOREUS.

J. Gould & H.C. Richter, del. et lith.

Walter, Imp.

LOBIPES HYPERBOREUS.

Red-necked Phalarope.

Tringa lobata (pt.), Linn. Faun. Suec., p. 64.

——— *hyperborea*, Linn. Syst. Nat., tom. i. p. 249.

——— *fusca*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 675.

Phalaropus hyperboreus et *fuscus*, Lath. Ind. Orn., vol. ii. p. 775.

——— *cinerascens* et *ruficollis*, Pall. Zoog. Ross.-Asiat., tom. ii. p. 203.

——— *angustirostris*, Naum. Vög. Deutschl., 1836, tom. viii. p. 240, tab. 205.

——— *cinereus*, Briss. Orn., tom. vi. p. 15.

——— *Williamsii*, Simm. in Linn. Trans., vol. viii. p. 264.

Lobipes hyperboreus, Cuv. Règ. Anim., 1829, tom. i. p. 532.

WHEN Bullock visited the Orkneys in 1813, and Mr. Salmon in 1831, this species was an abundant summer resident on those islands: but at this period (1866) it probably no longer resorts there; for Mr. J. H. Dunn writes, "The bird has been extirpated in Orkney by collectors and the improvement of agriculture." I am sure that there is no one of my readers but will share with me in regretting the expulsion of so beautiful and interesting a creature from the British Islands. Is there no living proprietor in Orkney that will guard a morass from future interlopers and entice this species back again? If this were done, the laudable act, I am sure, would be rewarded by success. A little further north the bird is still abundant, and Iceland would satisfy the cravings of the egg-collector for the next century; if not, there are Greenland, Norway, and Lapland to fall back upon, for in those countries it still breeds in comparative safety.

It would be natural to suppose that a bird whose breeding-quarters are so near at hand would be plentiful in England during the autumn and winter months; yet this is not the case; for the Red-necked Phalarope is at this season less common than the Grey, whose country of reproduction is almost unknown, but which is, doubtless, in the far north. The range of this species is much greater than that of its ally, and I question if there be any part of the world too distant for its winter visits. I have seen specimens from California, Mexico, Guatemala, and the coast of Chili, and also from China and India.

In England it has been killed in many counties; and if it be not included in the work of Thompson on the 'Birds of Ireland,' it must be that the bird has not as yet attracted the notice of the ornithologists of that country, for assuredly it must now and then occur there. Writing to me respecting this bird, Mr. Bond says, "The first specimen I ever had was shot by a friend of mine in September 1842, near Southend, Essex, where he saw the Phalarope swimming on the water, like a little Duck, about a mile from land: not knowing what it was, he shot it, and kindly brought it to me; it is in the grey or winter plumage. I have also a very handsome male, in summer plumage, shot while running between the metals on the Great Eastern Railway, near the Stratford Station, early in June 1852." This is the nearest to London I have known of one being obtained. Mr. Stevenson informs me that "This species, always considered much more rare on the Norfolk coast than the Grey Phalarope, has of late years become extremely so; indeed I know of but four specimens killed in this country during the last fifteen years. It is, however, very remarkable that a bird, generally so scarce and irregular in its visits, should have appeared on the same parts of our coast in the three successive autumns of 1846, 1847, and 1848."

The following interesting account of this elegant little species is from the pen of the late Mr. St. John; and its perusal will, I am sure, impress my readers with a desire to see, at least once in their lives, the bird in a state of nature, and induce them to excuse me for reprinting it in the present work:—

"The Red-necked Phalarope is certainly the most beautiful little wader of my acquaintance. There were a pair of them, male and female, feeding near the loch, in a little pool which was covered with weeds of different kinds. Nothing could be more graceful than the movements of these two little birds as they swam about in search of insects, &c. Sometimes they ran lightly on the broad leaves of the Water-lily, which served them for a raft, and entirely kept them out of the water. Though not exactly web-footed, the Phalarope swims with the greatest ease. The attachment of these two birds to each other seemed very great; whenever in their search for food they wandered so far apart as to be hidden by the intervening weeds, the male bird stopped feeding suddenly and, looking round, uttered a low and musical call of inquiry, which was immediately answered by the female in a different note, but perfectly expressive of her answer, which one might suppose to be to the purport that she was at hand and quite safe; on hearing her the male immediately recommenced feeding, but at the same time making his way towards her; she also flew to meet him: they then joined company for a moment or two, and after a few little notes of endear-

ment, turned off again in different directions. This scene was repeated a dozen times while I was watching them. They seemed to have not the slightest fear of me; for frequently they came within a yard of where I was sitting, and after looking up they continued catching the small water-insects, &c., on the weeds without minding my presence in the least.

"After having apparently exhausted the food in one pool, on a signal from the male, they suddenly both took wing, and flew away to a fresh feeding-place two or three hundred yards off, where we afterwards found them. Though we could not discover the nest, I have no doubt that they had eggs very near the spot where we saw them. Indeed on dissecting the female we found two eggs in her, nearly full-sized; so that probably she had already deposited the other two, which would have made her number complete. I find no account of this bird breeding on the mainland of Scotland."

Mr. Newton states, in his Notes on the Ornithology of Iceland, that this species is "very common on all the ponds and lakes of the island. Arrives late in May, and at once begins the duties of nidification. On one occasion, in the month of June, I saw a flock of at least a hundred sitting on the surf between the breaking waves and the shore."

"This beautiful little species," says Mr. Salmon, in his account of the birds seen by him in Orkney, published in the 'Magazine of Natural History,' "appeared to be very tame. Although we shot two pairs, those that were swimming about did not take the least notice of the report of the gun: and they seemed to be much attached to each other; for when one of them flew to a short distance, the other directly followed; and while I held a wounded female in my hand, its mate came and fluttered before my face. We were much gratified in watching the motions of these elegant little creatures as they kept swimming about and were for ever dipping their bills into the water; and so intent were they in their occupation, that they did not take the least notice of me, although within a few yards of them. After some little difficulty, we were fortunate in finding their nests, which were placed in small tufts of grass growing close to the edge of the loch; they were formed of dried grass, and were about the size of that of a Titlark, but much deeper. They had but just commenced laying (June 13); for we found only one or two eggs in each nest, but were informed they always lay four."

Mr. Dunn in his 'Ornithologist's Guide to Orkney and Shetland' says, "I have never seen this bird in Shetland. I got several in Orkney, but it is not plentiful. The places where I procured their eggs, and found the birds most numerous, are a small sheet of water about three or four miles from the lighthouse of Sanda, a lake near Nunse Castle, in Westra, and at Sandwich, near Stromness."

Mr. Wolley, writing to Mr. Hewitson, says, "The few nests I have seen have been in little grassy islets in shallow boggy lakes or ponds, in moss or in a tuft of grass close to the water's edge or, sometimes, a few feet away. In the Faroe Islands it is found in a cluster of ponds, in one of the largest of them. In Lapland it breeds only far up the country, and sparingly. The bird is extremely tame, swimming about my india-rubber boat so near that I could almost catch it in my hand; I have seen it even, when far from its nest, struck at many times with an oar before it flew away." Bullock informed Montagu that the Red-necked Phalarope "swims with the greatest ease, and, when on the water, carries its head close to the back, in the manner of a Teal, and looks like a beautiful miniature of a Duck."

The egg is one inch and an eighth long by seven eighths of an inch broad, and is of a buffy stone-colour, blotched all over with blackish brown and pale purple.

Modern ornithologists consider the structural differences which occur in the Phalaropes of sufficient importance to divide them into two genera,—the present bird, with its narrow bill, being made the type of *Lobipes*, and having associated with it the fine *L. Wilsoni* of America, while that of *Phalaropus* has been retained for the preceding broad and flat-billed species. No others have yet been discovered, and I scarcely think it likely that the group will ever be added to.

The sexes of the present bird differ in the same way as the grey species;—the female being the largest, and by far the most finely coloured during the period of spring and summer. In winter they both become white beneath and mottled brownish black and grey above; the two species are then somewhat similar in colour; but the difference in the form of the bill will always distinguish one from the other.

The Plate represents a male, a female, and four young birds, of the size of life. The figures of the latter were drawn from two specimens taken in Orkney, and which are now in the Ashmolean Museum at Oxford.



FULICA ATRA.

FULICA ATRA.

Coot.

Fulica atra Linnæi et auctorum.

—— *aterrima*, Gmelin, Syst. Nat., tom. i. p. 703.

—— *æthiops* et *leucoryx*, Sparrman, Mus. Carls., fas. i. pls. 12 and 13.

—— *atrata* et *pullata*, Pallas.

—— *platyuros*, Brehm.

WERE every one disposed to protect the Coot, there would not be a river, mere, or large pond in the British Islands without the presence of this ornamental and peaceful bird; for it takes advantage of any friendly protection afforded to it, by resorting to such situations for the purpose of breeding, during the months of spring and summer; in winter, when the inland ponds and water-courses become ice-bound, the Coot gradually migrates southward, where the waters are still open, some to our large rivers, while others find an asylum in estuaries and the flat oozy shores of the sea-coast. I may particularize Southampton Water, the bays of the South Coast, and the Harbour of Poole. In such localities, especially if the weather be severe, the Coot assembles in vast multitudes, for they there find a plentiful supply of food; but, I regret to say, thousands annually fall to the gunners, who steal upon the congregated masses in flat-bottomed punts, or await their passage from the sea to the open saline marshes of the interior. It is said that their flesh is good, and that they are really eaten; but of this I cannot bear personal testimony, since I have always regarded them in an opposite light; and it will be from sheer necessity if ever I shoot Coots for the purpose of eating. Independently of the British Islands, the Coot enjoys a wide range over the Old World; for it is found throughout the continent of Europe, from north to south, and in the latter direction proceeds considerably into Africa; eastward it is found as far as China and Japan, and in all the intervening countries of Asia Minor, India, and Siam. I believe it also occurs in Java and Sumatra, but of this I am not certain. In Australia it is represented by the *Fulica australis*, in South Africa by the *F. cristata*, and in North America by the *F. americana*; thus each portion of the globe has its own particular species of this very singular form. The Coot is so excellent a swimmer that the surface of the water may be said to be its natural abode; for I believe it never dives, unless to elude an enemy or to obtain some particular article of diet: on land its gait is as ungraceful as that of a Swan under similar circumstances. Its natural food consists of the leaves of water-grasses and other aquatic plants, insects, mollusca, and doubtless the fry of fish are not rejected; in a state of semi-captivity, it readily eats any cereals that may be given to it. Its flight is heavy and of short duration; its neck is then stretched forward to its greatest length in front, while its legs are trailed to their fullest extent behind. From the dense and oily character of its plumage, its body and wings are always protected from wet; it swims easily through the water, and stealthily threads the herbage, half submerged, when danger is at hand. That the Coot has a powerful enemy in the Peregrine is evidenced by the account I have given in my description of that species, where it will be seen that that Falcon not only takes it for food, but destroys it for mere sport.

The sexes are precisely alike in colour, but the female is never so large nor so heavy as the male; both have the conspicuous plate on the forehead, which becomes raised and much dilated just prior to the breeding-season, and rapidly diminishes after the duty of reproduction has been completed; this almost horny plate, whence has originated the trivial name of Bald Coot, is either of a pure milky white or slightly suffused with rose-colour. That the Coot may be easily domesticated we have abundant proof, several examples having lived on the ponds in the Gardens of the Zoological Society, and become as tame and familiar as any of the other birds in the aviaries. I must mention, however, that, like the Moorhen (*Gallinula chloropus*), it shows a great antipathy to newly-hatched ducklings and other birds, and sometimes kills them with a single stroke of its powerful bill. It occasionally utters a loud harsh note or *crew*, as stated by Meyer; this note is usually monosyllabic, but is sometimes rapidly repeated. I believe that the wings of this bird, like those of the Moorhen, are brought into action more often by night than by day; it is then that its partial migrations from one part of the country to another are performed; and those who are resident in the country must have often heard its peculiar call while passing, in the night-time, from one part of a river to another. The weight of the male during the breeding-season is a trifle less than 2 lbs., while the average weight of the female is 1 lb. 8 ozs.

I shall now give some account of a portion of the economy of this bird which I consider to be the most interesting part of its history, namely, its nidification; and then a description of the young, from the commencement of its existence to maturity, which has never yet been done so minutely by the ornithologists of this country as, in my opinion, the subject demands. During the month of April, any pond, lake, or river,

such as the Thames and its tributaries, the Colne and Kennet, will be visited by Coots, which, if allowed to remain unmolested, will immediately pair; should the pond be large and suited to the habits of the bird, such as that at Hay Mill, close to the railway between Salt Hill and Taplow, several pairs will take up a residence. A week of courtship follows soon after their arrival; each pair selects a particular station, and the process of constructing their nest commences. This structure is rather high, but nearly flat in form; and is composed of a mass of herbage, either placed in the water among the reeds, or high and dry in a tussock of grass. The first egg being laid, six, seven, and sometimes eight, are deposited in as many days. The female now assiduously performs the task of incubation, cheered no doubt by the immediate presence of her mate, who swims about noiselessly but constantly before her, keeping off all intruding Coots, and protecting her to his utmost from every danger. The exact period incubation occupies is unknown to me; but in about a fortnight, in lieu of the eggs, we find the nest tenanted by young birds of the most interesting character for beauty of colouring that I have ever had the pleasure of beholding. This infantine state of the bird's existence is so pleasing to me that I must pray to be excused if guilty of any verbosity in my account of this part of the bird's history. I would ask my readers to glance at the accompanying Plate, where these young birds are depicted on their flattened nest: their beautiful colours are neither heightened nor augmented in any way; they are as nearly portraits as the pencils of Mr. Wolf and Mr. Richter could render them. This state of plumage is but seldom seen, even by the ornithologist; for on the least disturbance they immediately leave the nest, and shroud themselves from observation by diving beneath the water, or secreting themselves among the thick herbage: besides which, they are only adorned with this interesting dress for the short period of three, or at the utmost four days. The black down of the body is retained for a considerable period; but the red, blue, and flesh tints of the head gradually give place to other markings, which are almost as remarkable. At this period of the bird's existence it increases very rapidly in size, and the red hair-like feathers are thrown off simultaneously with the rich colouring of the head and bill. At the age of three weeks, if it has escaped the voracity of the Pike, the legs and the pupils of the eyes are black; and the bill, which is now an inch in length, is of a brick-red, with a white tip, and is crossed about the middle of both mandibles by a zigzag mark of black; the down of the body is exchanged for feathers, which on the breast and abdomen are white, a hue which as the bird advances in age becomes hoary, and, by the time it is two months old, changes to the general tint of the adult. The bill is now dull olive-brown, with the tip and frontal plate (which latter is but little developed) somewhat lighter; the eye is still nearly black; the legs and feet dull olive, with darker joints; and the bird is nearly as large as the adult. Specimens in this state were sent to me from Coombe Abbey, on the 9th of August, 1859. In the following spring the adult plumage is perfected, and the frontal plate becomes gradually spread over the crown. To give correct delineations of the Coot in all its changes, from early youth to maturity, would require several illustrations.

The eggs, which are about two inches in length by an inch and a half in breadth, are of a reddish stone-colour, peppered, as it were, all over with minute specks of purplish black.

The colouring of the adult may be described in a few words.

The feathers round the frontal plate and those of the head and neck are jet-black; from the lower part of the neck, this black passes into the deep slate-grey of the body; the tips of the primaries and secondaries are washed with greyish white, which is only seen when the wings are expanded; the tertiaries and hinder parts of the body become gradually darker, but not so dark as the under tail-coverts, which are of a jetty hue; a slight wash of brown pervades the thighs and centre of the abdomen; the irides are blood-red; feet and toes light greyish or olive white; the joints and edges of the membranes of its scalloped toes dark-bluish grey; nails purplish black; both sides of the tarsi, about the middle, and the garter yellowish green, the hinder part of the garter being orange; bill and frontal plate milky white.

The Plate represents the bird rather under the natural size.



GALLINULA CHLOROPUS.

GALLINULA CHLOROPUS.

Moorhen.

Fulica chloropus, Linn. Syst. Nat., tom. i. p. 258.

Gallinula, Briss. Orn., tom. vi. p. 3. pl. 1.

Gallinula chloropus, Lath. Ind. Orn., vol. ii. p. 770.

———— *parvifrons*, Blyth.

———— *akool*, Jerdon.

THE information gained by the ornithologist who makes the Birds of the world his study should not, in my opinion, be withheld from those who take an interest in our native birds only. It will, I am sure, not be considered out of place, then, if, in some instances, I preface my remarks by briefly noticing a few of the other known species of the same immediate form, as I shall thereby be enabled to show that if similar physical conditions exist in other countries, however distant they may be, there will frequently be found birds of the same kind, and very often, but not always, of the same species. To render my remarks more clear, let me state that the distant country of Australia is tenanted, like England, by a Swift and a Swallow; it has also a Coot and a Moorhen. North America, too, has a Moorhen and a Coot. These representative species (for they are not the same) are most interesting to the ornithologist, and tend greatly to enhance the importance of his favourite science. The emigrant, who quits his native home, bidding adieu to all that has ever been dear to him, also hails with great pleasure these representative birds of the land of his adoption, and, of course, considers them the same; but were examples from the two countries placed side by side, he would soon perceive their differences, slight though they may be. Enough has been said to convey the meaning intended by these remarks, which are not made for the scientific ornithologist, but for the information of those readers of 'The Birds of Great Britain' whose occupations, and perhaps tastes, prevent them from entering deeply into this branch of natural science.

In Great Britain the Moorhen is a constant resident; and although it may be less numerous in some counties than in others, its distribution may be said to be general; for England, Ireland, Scotland, and even the Islands of Orkney and Shetland alike enumerate it as among the commonest of their birds. A much more extended range than that of the British Islands is, however, enjoyed by this bird, even more extensive than the entire continent of Europe; for I believe it is resident in all suitable situations throughout Africa, from the shores of the Mediterranean to the Cape of Good Hope; India, too, is inhabited by Moorhens, which offer no specific differences from our own bird; and I have a specimen now before me from Shanghai in China, presented to me by John R. Reeves, Esq. My readers will therefore readily perceive how extensively this bird is spread over the Old World. That the southern part of the peninsula of India is the extent of its range towards the equator in that country is, I think, very probable.

The situations affected by the Moorhen in the British Islands are the sedgy banks of lakes and rivers, reedy ponds, moats, beds of osiers, wet ditches, &c. It is naturally shy and recluse, avoiding the presence of man by immediately retreating from the open to the thick covert, or shrouding itself from observation by diving, and remaining half submerged until the apprehended danger has disappeared; this natural shyness, however, is frequently overcome, and the bird is rendered semi-domesticated, when its singular but graceful actions contribute to our pleasure and amusement. On the water the Moorhen is as buoyant as a cork, and its powers of swimming are as perfect as those of most water-birds; and it is by no means ungraceful on the land. Its neatly trimmed body, richly coloured bill, and red-gartered green legs contrast strongly with the sombre tint of its plumage. It frequently leaves the sedgy coverts, and quietly walks over the grassy meads, lawn, or pleasure-ground or garden, with all the ease of a land-bird, flirting its tail from side to side, and conspicuously displaying the white under-coverts, especially during the season of courtship. At this particular period the Moorhen becomes animated and noisy. The short, harsh cry of the males is now heard from the midst of the thick reeds; and if a close inspection were admissible, many battles and skirmishes between them would be witnessed for the choice of a mate. The Moorhen's energies are also aroused in an extraordinary manner, when a rat swims across the river, and perchance lands in the neighbourhood of its nest. I have seen a Moorhen furious at such an intrusion; and from the manner in which the rat has been assailed, I suspect he would avoid that locality for the future. Boldness and pugnacity appear to be part of the Moorhen's nature, and its quarrelsome disposition renders it an unpleasant neighbour to any peaceful bird that may live in close contiguity. This leads me to a trait in its character which will not redound to its credit; still it ought to be known. The Moorhen comes walking over the lawn, turning its head first to the right, then to the left, jerking its short, uplifted tail, apparently all peace and amiability;

but should the chick of a Fowl or Pheasant or a duckling cross his path, a single stroke of his pointed bill lays the little innocent dead at his feet, almost without a kick or struggle; and many losses to the keeper and the housewife have occurred which are not charged to the Moorhen. I was first made aware of this habit of the bird by one of the keepers of Sir S. Morton Peto, Bart., at Somerleyton; shortly afterwards I read a similar statement in the 'Zoologist'; and in order to determine the truth of these assertions, I inquired of James Hunt, one of the keepers of the Zoological Society, if such a habit in the bird had come under his notice; and I soon found all I had previously heard was true to the very letter. The following is his reply:—

"In answer to your inquiries respecting the Moorhens in the ponds in these Gardens, I beg to say they have always been very annoying and often destructive to young ducks. I have known them to kill several of a hatch, and partly to pull them to pieces. If the old duck attempts to assist them, the Moorhen immediately attacks, and sometimes mounts on her back, and continues tormenting her until she shakes it off by main strength, or dives under water, and so gets clear. The Moorhen often takes possession of the nest-boxes fixed in the ponds, and builds her nest therein, when no bird, not even a Goose, dare approach within some yards of it; in fact, the greater part of the time of the Moorhen during the breeding-season is taken up in annoying and tormenting the other birds in the pond."

The following interesting extract from the 'Zoologist' must close this part of the Moorhen's history. "At the beginning of July," says H. J. Partridge, Esq., of Hockham Hall, near Thetford, in Norfolk, "the keeper having lost several Pheasants about three weeks old, from a copse, and having set traps in vain for winged and four-footed vermin, determined to keep watch for the aggressor, when, after some time, a Moorhen was seen walking about near the copse; the keeper supposing that it only came to eat the young Pheasants' food, did not shoot it until he saw the Moorhen strike a Pheasant, which it killed immediately, and devoured all the young bird, except the leg- and wing-bones. The remains agreed exactly with those of eight found before. Perfect confidence may be placed in the correctness of this statement."

After this, let me say something more pleasing respecting the Moorhen, but before so doing direct the reader's attention to the accompanying Plate, whereon is depicted a newly hatched brood, one of three or four which are annually produced. That they are beautiful and interesting, no one, I think, will gainsay; yet how seldom are they seen, and how little is the colouring of the bird during the first few days of its existence known! This may be attributed to two causes—one the situations in which the nest is placed, the other the very short period (at most four or five days) during which this peculiar colouring is retained. Immediately on emerging from the shell, these infant birds take to the water, and follow their parents through labyrinths of thick and tangled herbage, at one part of the day sunning themselves on the prostrate rushes, at another threading the floating leaves of the water-lilies, both yellow and white; as night approaches, their sensitiveness to cold prompts them to seek shelter under the wings of the careful mother: the clucking male is now assiduously attentive, and protects both her and her progeny from danger, flirts his white tail, and exhibits evident signs of pleasure. These newly-hatched chicks, which a few hours previously were breathlessly imprisoned within the hard shell, have sprung into life with all the active energies of their parents, and, uttering a cheeping note, follow them about, swimming over the glassy pool, scrambling over the floating reeds in pursuit of insects, with the quickness of thought, and avoiding danger by diving beneath the surface with remarkable adroitness. From this period a great change takes place; for as the bird increases in size, feathers take the place of the downy covering, the characteristic colouring being olive-brown above and hoary white beneath, particularly on the throat and under surface; the bill now becomes of a uniform olive-green, a colour which it retains for the first year; after this, or in the second year, the adult livery is assumed, the feathers become more glossy, the bill assumes its brilliant hues of red and yellow, and the gaily coloured garter offers a conspicuous contrast to the yellowish green of the legs; the eye is now more in unison with the red of the bill and the frontal plate, and the Moorhens are in their finest attire—both sexes alike in their colouring, to a shade, even to the red and yellow bill. The average weight of several individuals was from 13 to 15 ounces, the lighter birds always being females. What more can I say respecting this well-known denizen of our marshes, the companion of the Will-o'-the-wisp? perhaps more would be tedious to the reader; with a description of its flight, its food, and its nest and eggs, I shall therefore close the Moorhen's history. Its wing-powers are not great, still they are sufficient to transport the bird from one part of the river to another, and for its nightly sallies, which are made known to all who live on the sides of rivers by the peculiar cry it emits while flying overhead, when darkness shrouds the object that gives utterance to it from our view: this is the voice of the Moorhen. His food consists of aquatic insects and their larvæ, mollusks of various kinds, every species of grain, and the shoots of young wheat or other cereals. The nest is sometimes placed on the flat branch of a tree, at others on stumps near the water's edge, among reeds, or on large floating masses of weeds. It is usually made of rushes, and is somewhat carelessly constructed. The eggs, which are from six to eight or nine in number, are of a reddish white, thinly spotted and speckled with dull orange-brown; they are one inch and eight lines long by one inch three lines broad.

The Plate represents male, female, and brood, about life-size. The plant is the *Nymphæa alba*.



RALLUS AQUATICUS, Linn.

(Gould and H. C. Richter, add. & bish.)

Walter & Coles, Imp.

RALLUS AQUATICUS, *Linn.*

Water-Rail.

Rallus aquaticus, Linn. Syst. Nat., tom. i. p. 262.

It is no easy task to write a life-like description of the Water-Rail, its habits, and economy. We know that it is a shy, stealthy, active, running creature, in actions as much like a rat as a bird, and that it frequents the sedge-covered sides of our rivers, pools, and water-courses, particularly where tussocky grasses abound and afford shelter for many other things beside this little dark-coloured bird, which threads the herbage with facility, and bounds like a ball before the nose of the Spaniel. This lath-like bird, which flies only to avoid danger, or swims across the pool for a similar purpose, delights in a state of seclusion, and dwells all the year round in low situations among tangled herbage, much after the manner of the Moorhen (*Gallinula chloropus*), to which it most closely assimilates in its mode of life and economy; but shy as that bird may be, the Water-Rail is still more so, and hence it is very seldom seen or heard. Its distribution over the British Islands is so general that it is found everywhere, from the Land's End to the Islands of Orkney and Shetland and the outermost Hebrides. It is equally numerous in every part of Europe, Africa from north to south, India from the Himalayas throughout the peninsula, China, and Japan; yet widely as the bird is distributed, how seldom is it seen, and how few are the persons who have had a close view of it! We know that it builds a slight nest of leaves and strips of flags, in a tuft of grass near the edge of the stream, lake, or pond, and that it lays eight or nine eggs, from which in due time emerge a like number of small black-downy nestlings; these tiny creatures scramble about the herbage in the innermost recesses of the pool, and accompany their parents over the floating leaves of the *Nymphææ* and other aquatic flowers, hunting with the utmost activity, from the minute they are born, for the flies and other insects constituting their food. If, in the English waters, they escape the Pike, and in the African lagoon the equally destructive Tortoise, they soon change their black downy livery for feathers similar in character and colouring to those of their parents, both of which are alike in their dress.

Were the sportsman to go out with the express intention of shooting a Water-Rail, the chances are that eight out of ten times he would be disappointed; yet I have known several killed in a day during the great Pheasant-battues in the low copses and ditchy covers of Norfolk, Suffolk, and Lincolnshire: rarely, however, does it take wing, even before a string of beaters; should it do so, it is for the last time, for it flies straight and slowly, and it is therefore easily killed.

Unlike the Land-Rail, this bird is strictly indigenous in our islands, and consequently is to be found at all seasons; but great accessions to the usual numbers arrive during the autumn months from the north, at least this is the opinion of Mr. Stevenson of Norwich, who has favoured me with the following note respecting the bird as observed by him in Norfolk:—

“The Water-Rail is common throughout the year, and is found in all moist situations, but, of course, most plentifully amongst the reed-beds and sedgy margins of the broads, where it nests freely during the summer months. Yet, from the swampy nature of the localities, but few eggs are taken in any season. It has been doubtful whether this species remains in England during the winter; but supposing even that some portion of those bred in our marshes proceed further south during sharp weather, others undoubtedly still remain, and, like the common Waterhens, suffer very severely during sharp frosts. I have shot them, both on the broads and by the river-side, when the ground has been covered with snow, and only a small channel left unfrozen in the middle of the stream. Why these birds should remain with us at such times, to endure the privations of both hunger and cold, it is difficult to imagine, more particularly as flights from more northern localities, proving the migratory habits of the species, undoubtedly visit us during the autumn months. On more than one occasion, whilst Snipe-shooting at Surlingham, in October and November, I have found unusual numbers of these birds, and, after shooting two or three couple, have had the greatest difficulty in calling off the dog and persuading him to devote his attention exclusively to the Snipe. At such times I have always discovered the Rails scattered over the drier marshes surrounding the broad, and either winding their way between the tussocks of grass or hidden in the dense undergrowth of the willow and alder bushes, whilst the few that are met with at other times are generally flushed by the water's edge or from the sedges bordering a bed of reeds. I have never known them to remain in these numbers for two successive days; but like Woodcocks, resting after a long flight, they afford ample sport at the time, and are soon off again on their southward journey.

“As some proof of the number that thus visit us, I may add that on one occasion at Surlingham, in the

early part of October, a friend of mine bagged 10 $\frac{1}{2}$ couple in one day to his own gun. A very curious and most unusual pied variety of this bird was killed recently at Lingwood, in this county."

The following description of the nest of this species was published by Mr. John Smith, of Yarmouth, in the 'Annals of Natural History,' vol. ii. p. 78:—"The bird had selected for her nest a thick tuft of long grass, hollow at the bottom, on the side of the reed-pond; the nest, about an inch and a half thick, was composed of withered leaves and rushes; it was so covered by the top of the grass, that neither bird, nest, nor eggs could be seen; the entrance to and from the nest was through an aperture of the grass directly into the reeds opposite, where any one could stand to see the nest. The length of the eggs, on an average, were one inch and a half, some near a tenth more, others near a tenth less; weight seven drachms; colour light cream, thickly spotted at the larger ends with bright rusty red intermixed with sunk faint lilac spots, thinly and finely spotted at the lesser ends with the same colours, with a blush of pink over the whole egg, but more towards the lesser ends; the yelk a bright blood-red, brighter than that of any egg I ever opened; and I think that the pink tint of the shell is owing to the redness of the yelk, for after emptying the eggs it was hardly perceptible. On the 20th of June I found another nest in the same reed-pond, built among the reeds, and very near the water. On the 10th of July I obtained a third nest from the same place, of eleven eggs, within two or three days of hatching, the nest and situation much like the last."

I am indebted to Mr. H. Smither, of Churt, for the examples of the young figured in my Plate, and which he informs me were taken from the edge of Frencham ponds, the nest in which they were placed being in a sedgetolt, as they are there called, a tall mass of sedge, sometimes two or three feet high, surrounded with water.

When moving about in security in search of food, the Water-Rail often flirts up its tail, and exposes the large creamy-white under-coverts; it swims and dives with readiness, and occasionally runs over the surface of the water, supported by the floating herbage, for traversing which its widely expanding feet are well adapted. Worms, slugs, insects, shelled mollusks, and the leaves and seeds of certain aquatic plants are doubtless the principal articles of its diet; but that it partakes of many other things is certain. Mr. Bond informs me that a friend of his, who had some Water-Rails cooked Snipe-fashion (that is, with their trails in them), when they came to table, found a small Shrew-mouse in one of them. In this habit of feeding occasionally on small animals the Water-Rail assimilates to the Moorhen, which, on reference to my account of that species, will be found to live upon birds, animals, and many other objects it is not supposed to eat. A Water-Rail kept alive by Mr. Selby for some time was fed entirely upon earth-worms, upon which it continued to thrive until an accident deprived it of life; and that it will readily live in confinement is further proved by an example which has been in the Gardens of the Zoological Society for a considerable period.

Upper surface, secondaries nearest the body and tail olive brown, streaked with blackish brown down the middle of each feather; spurious wing, primaries, and outermost secondaries dusky olive-brown; chin greyish white; neck and breast dull greyish blue; abdomen and inner part of the thighs cream-coloured; larger wing-coverts and flanks barred with black and white; under tail-coverts creamy white, the smaller feathers barred with black; irides reddish brown; upper mandible olive, lower mandible and gape bright red; legs light reddish brown, toes somewhat darker.

The Plate represents a male and female, and a brood of young ones two or three days old, all of the natural size.



GREN PRATINCOLE.

CREX PRATENSIS. .

Land-Rail, or Corn-Crake.

Rallus Crex, Linn. Syst. Nat., tom. i. p. 261.

Porphyrio rufescens, Briss. Orn., tom. v. p. 533.

Gallinula Crex, Lath. Ind. Orn., vol. ii. p. 766.

Crex pratensis, Bechst. Naturg. Deutsch., tom. iv. p. 470.

Ortygometra Crex, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 213, pl. 26.

THERE are doubtless many persons, with a taste for the natural objects around them, who are not aware that our avifauna is composed of birds which are stationary, as the Robin and the Wren, chance visitors, like the Hoopoe and the Oriole, spring migrants, like the Swallow and the Cuckoo, and autumn migrants, like the Fieldfare and the Redwing. The autumnal visitors which come from colder climates, such as Norway and Sweden, retire northward again about the time when our spring visitors arrive from Africa: these latter comprise, beside the Swallow and smaller sylvan species, the *Saxicolinæ*, the Cuckoo, the Quail, the Night-Jar, Wryneck, Land-Rail, &c.,—the aggregate being about fifty species. Thus, when we lose our winter visitants, their place is supplied by the arrival, during the month of April, of fifty kinds of birds which had wintered elsewhere. No one of these spring visitors is more conspicuous than the Land-Rail, which, arriving about the second week in April, gradually spreads over the whole of the British Islands, and by the 1st of May is as common in Sutherlandshire as it is in our most southern counties; in Ireland the movement is precisely similar, and it is even more numerous there than in England. Britain is by no means the most northern country which the Land-Rail annually visits; for in summer it is found, but in smaller numbers, in Iceland and Greenland. Independently of the localities above mentioned, the Land-Rail is found all over Europe, from north to south; and in one or other part of the year, from Madeira in the Atlantic, throughout Northern Africa, Asia Minor, and as far eastward as Affghanistan.

Soon after its arrival in spring, this restless migrant settles itself in some low grassy mead, field of clover or corn, or bed of osiers, and the male commences the harsh, kraking, monotonous call so well known to every one resident in the country. As soon as the female has responded to the invitation, the mated pair commence their nest; the due number of eggs having been laid in daily succession, the task of incubation is commenced; and by the time the grass is ready for the scythe, the mead bespangled with the buttercup, and the charlock well in flower, the hatching-time has arrived, and the coal-black young are following their parents stealthily through the grass. These active little creatures must grow with unusual rapidity; for the barley is scarcely ripe before they can fly, and the 1st of September is usually too late for the sportsman to benefit by more than a remnant of the thousands that must have been bred in our islands. The great mass of both old and young are now near the south coast, waiting for the first favourable opportunity to cross the water, and gradually pass southward to their winter quarters. It is true that Land-Rails are often killed in September, and even in October. A field of standing clover will even hold them longer; and some few must stay with us the whole winter, for specimens are frequently seen in the London markets at Christmas, and I once picked up a dead Land-Rail, at Hawkstone, in January, which had apparently been killed by some bird of prey. But, as I have stated, the greater number depart in September—a circumstance very much to be regretted by those who are fond of sport, or who possess an epicurean taste; for there are few birds better adapted to gratify it, and still fewer that are its equal. How stealthily does the Land-Rail thread the grass, the corn, or the standing clover! With what command does it utter its harsh call so as to deceive those who may be anxiously wishing to sight it! at one moment the noise seems to be at your feet; at the next it appears to be many yards distant, and so perhaps it is; yet the boy, sitting in yonder ditch, with the aid of a comb and a piece of wood, calls the bird within a yard of him, and with uplifted stick strikes the moving grass and secures it. In the neighbourhood of London, where all is grass and dairy farms, Mr. Bond tells me, many are destroyed in this way.

With regard to the flight of the Land-Rail, every sportsman will testify that it is the most laboured, the slowest, and the straightest of all birds'; yet, to our astonishment, we know that this species crosses wide seas, and performs a migration of greater extent than any other of our spring birds, with the exception, perhaps, of the Wheatear. We cannot but wonder how it can fly so great a distance without exhaustion, when to cross only a moderately-sized field seems to tire it when flushed by the dogs in the sporting-season; for it invariably drops within a hundred yards, and very rarely is it forced to rise again. On my outward voyage to America a Land-Rail visited the ship when we were more than two

hundred miles from the coast of Ireland, and, after flying round the vessel two or three times, settled on the rigging. I tried in vain to catch it, and it flew to sea again in half an hour, winging its way I know not whither. On this subject I find the following passage in the 'Field' of November the 10th, 1860:—"In October 1857, I was travelling up the Mediterranean; and between Gibraltar and Malta, Land-Rails frequently came on board, flying south, particularly near the Algerian and Tunisian coasts, and I think one or two after we left Malta; so that if the Land-Rail does not migrate from England, it is not from want of the capability of doing so, and its migration in the south of Europe renders it probable that it does the same in the north. (B. L. C.)"

So many instances have been recorded of this bird assuming the semblance of death as a means of escape from impending danger, that there seems every reason to believe it really does resort to this artifice when occasion requires. My good old friend Edward Jesse, Esq., mentions, in his 'Gleanings in Natural History,' that "A gentleman had a Corn-Crake brought to him by his dog, to all appearance quite dead. As it lay on the ground, he turned it over with his foot, and felt convinced that it was dead. Standing by, however, in silence, he suddenly saw it open an eye; he then took it up, its head fell, its legs hung, and it appeared again quite dead. He then put it in his pocket, and before long felt it all alive, and struggling to escape. He then took it out; it was as lifeless as before. Having laid it again upon the ground, and retired to some distance, the bird in about five minutes warily raised its head, looked round, and decamped at full speed." A similar instance of its feigning death was communicated to the Rev. F. O. Morris, by W. R. Shepherd, Esq., of the Dana, Shrewsbury. "Whilst out with my gun at Ludlow, in going over a grass-field, my dog flushed a Corn-Crake, which flew steadily for a short distance and then dropped among the grass. Desirous of watching its movements, I hurried towards the spot where it had alighted, when I saw it stealing through the grass with the stealthiness and rapidity of a mouse, ever and anon raising its head to see the extent of the danger. Motioning the dog to stay behind, I crept cautiously to the spot; and as I drew near it, was surprised to see no attempt at escape. Having reached the place, I carefully examined the ground for some distance round, but could find nothing. I was just on the point of giving up the search, thinking that the bird had stolen off without my notice, when my attention was attracted by what appeared to me to be a clod of earth lying on the ground among the grass. On stooping down, I was surprised to find the object of my search apparently lifeless. I took it up: the head and legs dropped; to all appearance the bird was quite dead; but, being well acquainted with the habits of birds, I immediately detected the imposition; so, placing the bird upon the ground, I retired to a short distance, under cover of the trunk of a large tree. I had not remained there long, before I saw the cunning bird gently move; then, suddenly starting to its legs, it ran a short distance, took wing, and soon disappeared over an adjoining hedge. This is a striking instance of the deep cunning and sagacity which characterizes the habits of some birds." Several similar instances of these attempts at deception have appeared in the 'Zoologist,' in which it is stated that the bird, when taken in the hand, will appear perfectly dead, but if thrown into the air will fly away as well as ever.

The Land-Rail seldom employs its powers of flight, and, when it does, flies very slowly, with its legs hanging down, and speedily drops again into the first covert which seems likely to afford it shelter. Its food consists of worms, slugs, snails, various insects, some few vegetable matters, and seeds.

The nest, which is a very slight structure of dried plants, is generally placed in a hollow among corn, clover, or herbage of any kind. The eggs are of an elongated-oval form, from seven to ten in number. "They seldom vary," says Mr. Hewitson, "except in the size and frequency of the spots; some have the ground-colour of a warm red tint, with deep red-brown and purple blotches, while others are white, slightly tinted with blue, and fancifully streaked and spotted all over."

The sexes, which are alike in colour, may be thus described:—

The feathers of the upper surface are light yellowish brown, with an oblong spot of brownish black in the centre; a broad band over and behind the eye; throat and breast ash-grey; face and ear-coverts yellowish brown; flanks barred with light red and buff; wings light brown; bill and legs fleshy white; irides light hazel.

The female is somewhat smaller than the male, has the grey on the sides of the head less pure, and the usual colour of the wing mixed with darker brown.

The young are at first clothed with a long hair-like black down, which soon gives place to the plumage of the adult.

The Plate represents the two sexes of the natural size, and a brood of young birds about a fortnight old and beginning to assume the plumage of the adult. The plant is the Bladder Catchfly or Campion (*Silene inflata*).



PORZANA MARUETTA.

J. Gould and H.C. Richter, del. et lith.

Walter & Cohen, Imp.

PORZANA MARUETTA.

Spotted Crake.

Rallus Porzana, Linn. Syst. Nat., tom. i. p. 262.

——— *aquaticus minor* sive *maruetta*, Briss. Orn., tom. v. p. 155, pl. 13 fig. 1.

Gallinula porzana, Lath. Ind. Orn., vol. ii. p. 772.

———, *maculata*, et *punctata*, Brehm, Handb. der Naturg. Vög. Deutschl., pp. 696, 698, 699.

Porzana maruetta, Vieill.

Zapornia porzana, Gould, Birds of Europe, vol. ix. pl. 343.

Crex porzana, Selby, Ill. Brit. Orn., vol. ii. p. 179.

Ortygometra porzana, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 223.

THE Spotted Crake is the largest as well as the most prettily marked species of the small but well-defined genus of birds to which the generic name of *Porzana* has been assigned. In this country it is principally a summer visitant, arriving in March and April, and departing again in September or October. Its dispersion over England, Ireland, and Scotland is very general; but it is much less numerous in the two latter countries than in the former. In structure it is very similar to the Land-Rail, and it also assimilates very closely to that species in its skulking habits and general mode of life. It affects sloppy marshy districts rather than open grassy fields, and is altogether more aquatic than its ally; hence the fenny districts of Lincolnshire, Norfolk, Suffolk, and Huntingdonshire are the situations where it is most frequently found; but that it does occasionally occur elsewhere is proved by the fact that examples have been killed in every county, from Cornwall to the most northern parts of England. In a word, it may be found wherever there are rivers and large ponds with sedgy banks, and in all swampy depressions. In such situations it constructs its nest, and nurtures its silken-black young in safety; for the nest, being always placed in the thickest parts of the reeds and tangled herbage, is most difficult of detection. By far the best account of this part of the bird's economy I have yet seen is contained in Mr. Hewitson's work 'On the Eggs of British Birds,' and this I shall take the liberty of transcribing:—

“Mr. J. Hancock has a beautiful series of the eggs of this species, obtained by him during a bird-nesting excursion through the fenny districts of the counties of Cambridge and Huntingdon—some collected on the borders of Whittlesea Mere, but chiefly in Yaxley Fen; to him I am indebted for the following information:—The eggs of the Spotted Crake, as well as those of the Water-Rail, which are met with in exactly similar situations, are in ordinary seasons very difficult to obtain, the nest being placed in a thick bed of reeds, which covers a large extent of country, growing to a height of six or seven feet, and therefore not easily penetrated. It happened that the year had been unusually wet, and that the fen-country had been covered with water, so that both these species, which had had their nests swamped, and their eggs and young ones destroyed during the usual breeding-season in the beginning of May, were a second time engaged in incubation at the time of my visit in July, which was also the season during which the fenmen were mowing the reeds, and uncovering the nests of these two species, in the same way that those of the Corn-Crake are exposed by cutting down the long grass. Several of the nests of the Spotted Crake, which were not so numerous as those of the Water-Rail, were thus readily obtained. They were placed on the marshy ground, on a bed of broken reeds, and were formed of the long ribbon-like grass of the reeds, and lined with a finer soft grass, which distinguishes them from those of the allied species. They contained from seven to ten eggs each, varying considerably, but always characteristic of the species.” The eggs are represented in Mr. Hewitson's plate of a buffy stone-colour, blotched all over with irregular patches of reddish brown, some of which are darker and larger than others.

With respect to the distribution of this bird in other counties besides those above mentioned, I find, in the 'Zoologist' for March 1864, a notice from the pen of Mr. W. W. Boulton, to the effect that during the year 1863 no less than sixteen individuals were killed or captured alive on the river Hull; and that Mr. Hurd, of Beverley, had certainly shot not less than ten others, and Mr. Holmes and Mr. Simpson, of the same neighbourhood, had killed six more, making a total of thirty-two specimens obtained, besides others that were only seen; all that were procured were used for the table, and proved excellent eating.

The sexes of the Spotted Rail present no very marked difference in their colouring; neither do the young of the year vary materially from the adults after their feathers are sufficiently developed to enable them to perform their autumnal journey across the seas to Spain, Portugal, and Africa—a journey which is undertaken about the time, or perhaps a little later than the departure of the young Land-Rails on a similar errand, that is to say, when nipping frosts forewarn the bird of the approach of winter—a season not congenial to its habits or mode of life. I have always intended that my illustrations of the downy state of

our native birds should form a conspicuous feature in the present work; and I think that, so far as the marsh-birds are concerned, this intention has been fully carried out in my plates of the Coot, the Moorhen, and the Water-Rail. I have ever regarded these newly hatched creatures with great interest. At first the old birds attend them assiduously in the daytime, and shelter them under their wings during the night; but, from the hour they are hatched, the nestlings are endowed with the requisite power for gaining their own subsistence, and they grow so rapidly that a few days only elapse before the downy covering is thrown off, and stub feathers appear, as shown in my figures of the young Land-Rails. The development of these feathers progresses with rapidity, and nature perfects a structure adapted for performing a distant migration in a surprisingly short space of time. How wonderful is all this! June has probably far advanced before the eight or ten eggs of the Spotted Rail are deposited, and July fairly commenced before their young see the light of day; and yet in two months' time they are performing what we must consider a perilous journey over extensive seas, with instinct alone for a guide as to the route they are to pursue; and thus we see that the little balls of black glistening down, represented in the accompanying Plate, are converted into an aerial form in a few weeks.

The range of the *Porzana maruetta* is most extensive; for not only is it an inhabitant of every part of Europe suited to its mode of life, but it is also found over the greater part of Africa, Persia, and India: in most if not all these countries it is a migrant, visiting the temperate and northern ones in summer, and the southern at the opposite season.

The flight of the Spotted Crake is of the same heavy and laboured character as that of the Land-Rail. When compelled to take wing, it rises with its legs hanging behind it, and merely passes over the tops of the reeds to some place of security a short distance off. On the other hand, it runs with great celerity, and threads the tangled herbage with the ease and facility shown by the Water-Rail. It swims in like manner; and in case any of my readers should consider that I am incorrect in figuring the young on the surface of the water, I may mention that, if they do not habitually, they very frequently, take to that element the hour they are excluded from the shell, and, like young Moorhens, run over the floating leaves, and scramble down the fallen rushes, at one moment swimming, at the next catching insects from the surface or the underside of the aquatic plants forming part of the herbage among which they are dwelling. Broods of Spotted Crakes have doubtless been reared in the middle of a marsh, and under these circumstances may not be able to get to the water for some days.

Mr. Selby states that the flesh of the Spotted Crake is sweet and well-flavoured, and that in autumn the bird has a layer of fat, nearly a quarter of an inch in thickness, over the whole surface of the body; and I have myself seen fully fledged young birds so fat, that in hot weather they almost melted in the hand: could they be procured in any number, they would doubtless be much sought after as a *bonne bouche* for the epicure.

The Plate represents a male and a female, with a brood of young about two days old, of the size of life. The plant is the *Ranunculus fluvialis*. I am indebted to Edward Cock, Esq., of Lydd in Kent, for the very fine example from which my principal figure was taken.



PORZANA PYGMÆA.

David and W. Fisher, del. & col.

Walker & Coles, imp.

PORZANA PYGMÆA.

Baillon's Crake.

- Crex pygmæa*, Naum. Naturg. der Vög. Deutschl., Theil ix. p. 566, pl. 239.
—— *Baillonii*, Jard. and Selb. Ill. Orn., vol. i. p. 15.
Rallus Baillonii, Vieill. Nouv. Dict. d'Hist. Nat., 2nd edit. tom. xxviii. p. 548.
Gallinula Baillonii, Temm. Man. d'Orn., 2nd edit. tom. ii. p. 692, tom. iv. p. 440.
—— *stellaris*, Temm.
—— *pygmæa*, Schinz, Eur. Faun., tom. i. p. 349.
—— *Foljambei*, Eyt.
Ortygometra Baillonii, Steph. Cont. Shaw's Gen. Zool., vol. xii. p. 228, pl. 27.
—— *pygmæa*, Blas. List of Birds of Eur., English edit. p. 17.
Zapornia Baillonii, Gould, Birds of Eur., vol. iv. pl. 344.
—— *pygmæa*, Bonap. Compt. Rend. de l'Acad. Sci., tom. xliii. Sept. 15 et 22, 1856.
-

WHEN the mind of the naturalist is led to survey the "aspects of nature" in all their varied phases, he cannot fail to become deeply interested; for he will observe that alpine regions, notwithstanding their frosts and snow, furnish such forms as those of the Ibex and the Læmmergeyer; turf-clad downs, the Dotterel, the Wheatear, that finest among our native butterflies, the *Polyommatus Adonis*, and the curious Bee Orchis; extensive oak-districts, the "Purple Emperor" and the Chafer, so attractive to the Chern Owl; whilst bogs and marshy lands supply plants, birds, and insects specially adapted in their economy for such places. It is in these latter situations, amidst fogs and miasmata, where the "ignis fatuus" shows its deceptive light, that the present pretty little bird takes up its abode and finds a congenial home.

In the British Islands the *Porzana pygmæa* must be regarded as an irregular visitor; for although many examples have been obtained in England, Scotland, and Ireland, and its nest and eggs sometimes taken, its discovery in our islands is attended with much uncertainty; this, however, is not the case on the Continent, for there it is a summer migrant. It is numerous in Italy, France, and many parts of Germany, and also in the low fluvial districts of Greece, Bulgaria, and other eastern countries. Like its congeners it retires southward in autumn, and winters in North Africa and Persia. In India it is common, and very generally dispersed, as it probably is throughout the whole of central China. Temminck states that it also inhabits Japan. In Australia it is represented by a very closely allied species, the *Porzana palustris*.

When the shy and retiring habits of this bird and the character of the situations it inhabits are borne in mind, it is not to be wondered at that so few persons have seen it in a state of nature; indeed, its small size, the difficulty of making it take wing, and the secluded life it leads render this almost impossible.

The Rev. Richard Lubbock remarks, in his interesting 'Observations on the Fauna of Norfolk,' that Baillon's Crake has, to his "knowledge, been shot three times on Barton Fen; and it appears far more rare than it really is, as it creeps and skulks about, and scarcely any dog, however sagacious, can compel it to fly. This is also the case in those parts of the Continent where it is not uncommon: for you may pursue it for half an hour, and hardly catch a glimpse of it."

Other instances of its occurrence in Britain will be found in the 'Zoologist,' pp. 1877, 2923, 3035, and 5210; and Mr. Bond informs me that "examples of the bird and two nests were taken in 1858, one containing six eggs, by Mr. Partridge, a gamekeeper, on the 6th of June, at Streatham Ferry, near Ely. Three or four birds were killed shortly afterwards, only one of which was preserved. It is now in the collection of A. F. Sealy, Esq. The second nest, containing seven eggs, was taken at Roswell Pits, near Ely, in the first week of August; and a female bird was caught at the same time. The eggs passed into the possession of the late J. D. Salmon, and the bird into the collection of the Rev. Mr. Shepherd, of Trotterscliffe, Kent."

M. Bailly informs us that this species arrives in Savoy at the same time as the *Porzana minuta*, and, like that bird, departs again at the end of August or the beginning of September. Its habits, manners, and the kind of food upon which it subsists are precisely like those of its near ally. Equally as cunning and agile as that bird, it executes similar manœuvres to escape when hunted by dogs, and often induces them to make false points, during which it retires to a place of safety. It breeds in a similar manner among the long grass of the marshes and the borders of ponds. The female deposits from six to ten eggs, in May or June, on bunches of grass and mosses or the decayed reeds always near water. The eggs are of an elongated form and of a clear olive-red, with indistinct spots and markings of a darker tint. The flesh of the bird is in full flavour in autumn, and is not inferior to that of the *P. minuta* in delicacy.

In size the *Porzana pygmæa* is considerably less than the *P. minuta*; and it is to be regretted that the

law of priority, now generally adopted in zoological nomenclature, does not admit, at least in the case of the latter bird, of a change of the specific name, as the term *minuta* will always induce the impression that it is the smallest member of its genus, whereas it is really larger than the *P. pygmæa*.

As is the case with the other *Porzana*, no sexual difference is observable in the plumage of the adults ; but the young, on the other hand, have all the under surface greyish white, in lieu of dark blue-grey. Very young birds, that is, just after their exclusion from the nest, I have never seen ; but I have no doubt that they are very similar in colour to those of the Spotted Crake.

The figure in the opposite Plate, with its accompaniments, the Swallow-tailed Butterfly (*Papilio Machaon*) and the Yellow Water-Lily (*Nuphar lutea*), will, I trust, be of interest. Others might have been chosen, but those selected are in unison with the bird.



PORZANA MINUTA.

Illustrated by H. C. Richter, del. et lith.

Walter & Cohen, Imp.

PORZANA MINUTA.

Olivaceous Crake.

- Rallus minutus*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 719.
—— *parvus*, Scop. Ann. Hist. Nat., tom. i. p. 108.
—— *pusillus*, Pall. Reisen, tom. iii. p. 700.
—— *Peyrousei*, Vieill. Nouv. Dict. d'Hist. Nat., 2nd edit. tom. xxviii. p. 362.
Gallinula pusilla, Temm. Man. d'Orn., 2nd edit. tom. i. p. 690, and tom. iv. p. 440.
—— *minuta*, Mont. Orn. Dict. Suppl.
—— *Foljambei*, Mont. Orn. Dict. Suppl., App
Crex pusilla, Selby, Ill. Brit. Orn., vol. ii. p. 185.
—— *pusillus*, De Sélys-Longch. Faune Belge, p. 117.
Zapornia pusilla, Steph. Cont. of Shaw's Gen. Zool., vol. xii. p. 231, pl. 28.
—— *minuta*, Bonap. Compt. Rend. de l'Acad. Sci., tom. xliii., Sept. 15 et 22, 1856.
Ortygometra pusilla, Bonap. Geogr. and Comp. List of Birds of Eur. and N. Amer., p. 53.
—— *minuta*, Blas. List of Birds of Eur., English edit. p. 17.
-

It is probable that this species is far more abundant in the British Islands than is generally supposed, but its retiring habits preclude the possibility of saying whether this be or be not the case. Its natural haunts are great marshes and reed-beds, where, in company with the Bittern and the Bearded Tit, it leads a life of seclusion during the summer months, and rears its young. On the continent of Europe the Olivaceous Crake is more plentiful in the southern and central portions than the north. It is said to be common in Italy, Piedmont, and France, but to be merely an accidental visitor to Holland. In the British Islands also this bird must be considered as an irregular visitor; for although we have many instances of its occurrence on record, they are “few and far between.”

On referring to Yarrell's ‘History of British Birds,’ we shall find that the names of several of our most celebrated ornithologists are associated with this species. The earliest instance of its occurrence is noticed in the Minute Book of the Linnean Society for 1823, where it is stated that a specimen was shot by John Humphrey, Esq., of Hensley, on the banks of the Yore, on the 6th of May, 1807. But the first example made publicly known was the one described by Colonel Montagu, which had been shot in Devonshire in 1809. The next mentioned is Mr. Foljambe's bird, which was procured from a London poulterer in 1812. This was followed by a specimen obtained by Mr. Plasted, which was shot on the banks of the Thames, near Chelsea, and which is now, I believe, in the collection of Mr. Lombe, near Norwich. In March 1826 a female was caught at Barnwell in Cambridgeshire, which afterwards formed part of Dr. Thackeray's collection, and is now in the Boys' Museum at Eton College. In 1834 an Olivaceous Crake was shot near Yarmouth; in 1835 one was taken alive near Shoreham; in 1836 one was killed near Scarborough; and I am indebted to Mr. J. P. Saville, of Cambridge, for the loan of a very fine adult male, which was captured alive on the 26th of March, 1864, in Chesterton Fen, in that county. Notices like the above comprise the principal part of the information recorded respecting this bird. Of its habits or manners little or nothing is stated. To obtain an accurate knowledge of these, the countries where the bird is more plentiful than it is in England must be visited. There they may be closely observed; here, where it is only an accidental visitor, they cannot be. That, like the Spotted Crake, it is a regular migrant in the parts of the Continent it frequents, there can be little doubt; and I think it probable that those which visit the British Islands may be only stragglers. The structure of all the Crakes is very feeble as compared with that of the Water- and Land-Rails, and apparently too delicate to admit of their wintering in so rigorous a climate as that of England.

The following remarks by Yarrell comprise all that is known of the bird as observed in this country:—“In its food and general habits it very closely resembles the Spotted and other Crakes, but is occasionally seen on higher and more cultivated soils. Montagu truly observes that the habits of the smaller species of Gallinules” or Crakes “are their principal security: they are not only equally capable of diving and concealing their bodies under water, with only the bill above the surface to secure respiration, but run with celerity, and hide themselves amongst the rushes and flags of swampy places, and are with great difficulty roused, even with the assistance of dogs, depending more on concealment in thick cover than upon their wings to avoid danger; hence it is that they are so rarely obtained. The nest is formed of aquatic plants, among rushes; and the eggs are seven or eight in number, of a light olive-brown, spotted with darker brown, are of an oval form, one inch and two lines in length by nine lines and a half in breadth.”

M. Bailly states that the *Porzana minuta* is “very common in summer in the rice-fields of Piedmont, and but little less abundant in the marshes of Savoy, where it is often found in company with the *P. maruetta*

and *P. pygmæa*, with which latter species it is frequently confounded. It arrives in April or early in May, in considerable numbers. The old birds leave again in August, and the birds of the year some time in September; many of the latter perish when the grass is mown, being knocked down with rods and sticks upon their trying to escape by flight.

“The habits and manners are similar to those of *P. maruetta*. Like that species, it remains concealed among the grass and reeds of the marshes and the borders of lakes and ponds; there it moves gracefully, raising and displaying its tail at every step. It runs with rapidity over the broken reeds. Its food consists of insects, small worms, and aquatic plants. It is very cunning, and is especially noticeable for the subtlety with which it wearies the dog of the sportsman by executing a thousand evolutions with surprising celerity; whence comes the trivial name of *Kill-dog* bestowed upon it in some localities. Pursued to extremity, it casts itself into the water, swims with ease, and dives at the moment its enemy is about to seize it; or it conceals itself in a tuft of reeds or a bush, and by this means often escapes with impunity. It loves to breed among the reeds and in long and thick grass, frequently in small companies, of its own species or of *P. pygmæa*. The female lays her eggs on an inartificially constructed platform of decayed leaves or stalks of marsh-plants, slightly elevated above the water. The eggs are from seven to ten in number, of a yellowish-olive colour, finely spotted with a darker tint. The young, when hatched, are clothed with a black down, glossed with green on the head and part of the neck, and immediately follow the mother, whom they never quit until they begin to fly. The flesh of this Crake is succulent during autumn, and superior in delicacy to that of the *P. maruetta*.”

Although little difference is observable in the colouring of the sexes when adult, the young differ considerably from their parents, and very much resemble the young of the Moorhen, all the under surface being lighter than in the adults, and destitute of the blue-grey tint which characterizes them in after-life. The accompanying Plate will show these differences more clearly than the most minute description.

SMITHSONIAN INSTITUTION LIBRARIES



3 9088 01571 5840

